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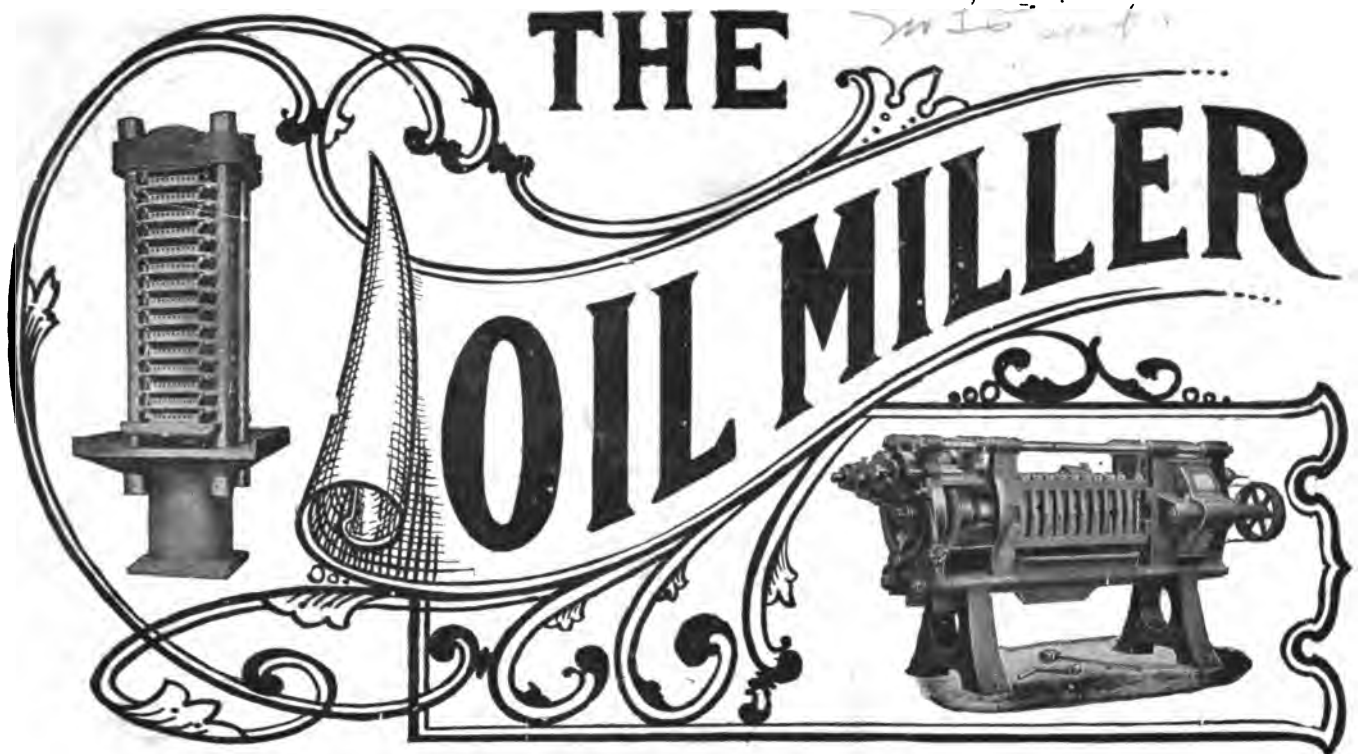
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Oil
VOR





Vol. IX. No. 1.
Monthly.

Atlanta, Ga., September, 1918.

862251 \$1.00
Per Year

Entered as Second-Class Matter at Atlanta, Ga., under the Act of March 3d, 1879.

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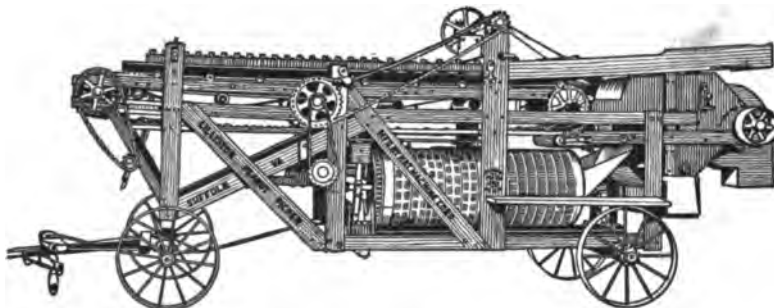
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American Peanut Corporation.

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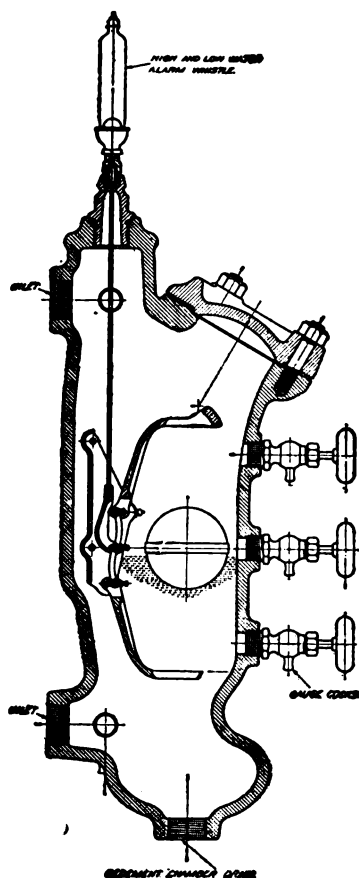
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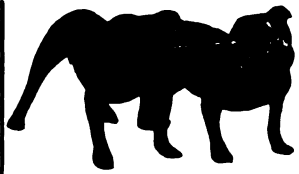
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Complete Power Transmission Machinery Equipments
for Cotton Seed Oil Mills.

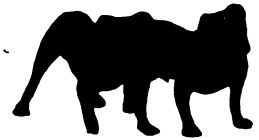
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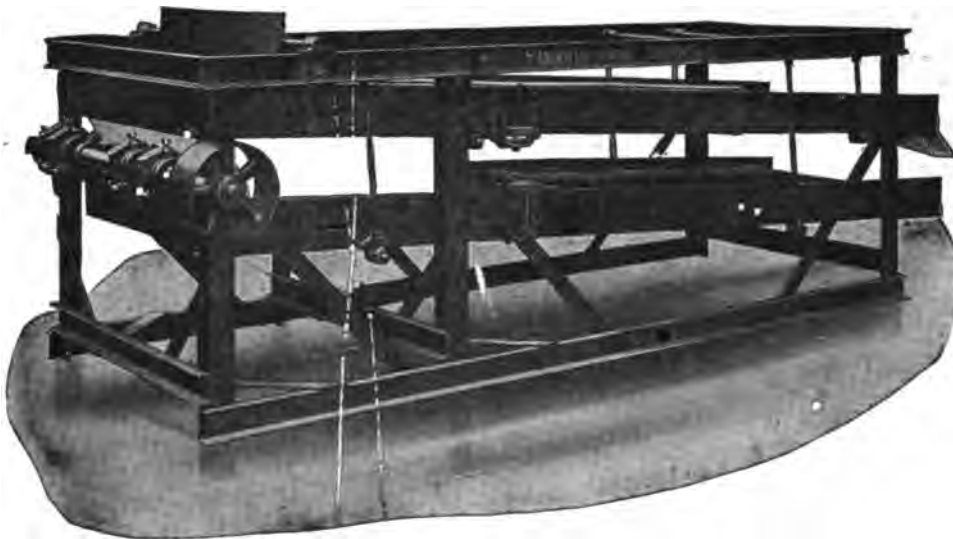


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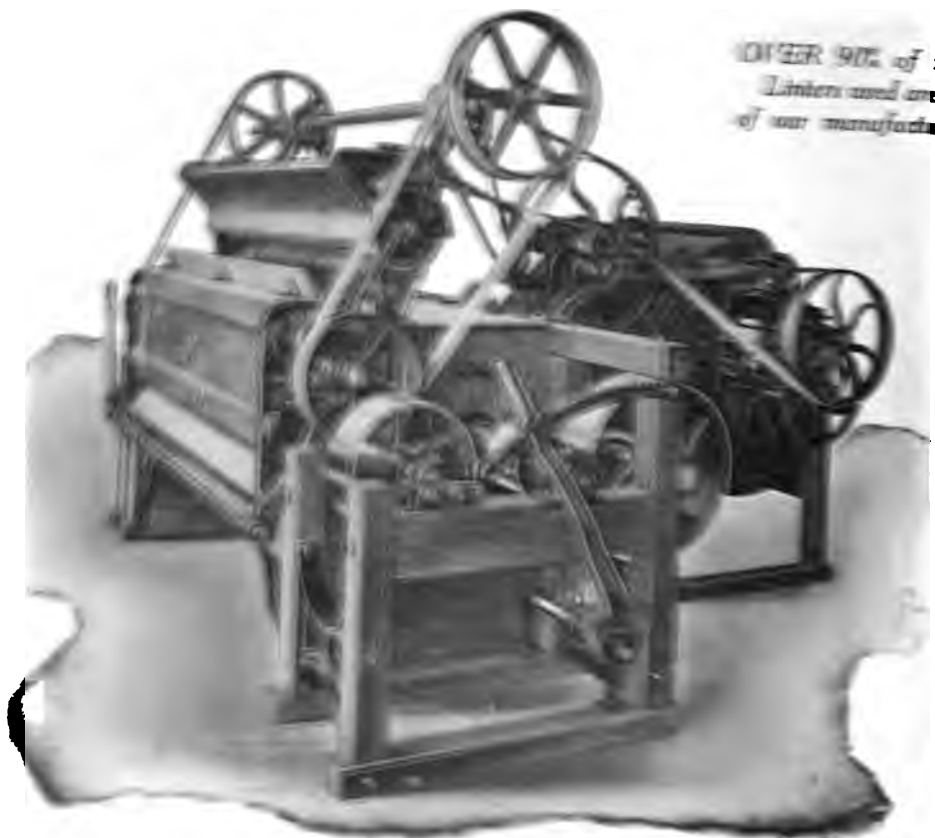
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Medart V-Groove Friction Clutch as used in connection with a Steel Rim Pulley. This Clutch, made solid or split construction, with interchangeable sleeve, can be used with either a pulley, gear, sprocket or rope sheave.

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The Expeller System is the American System

The Burruss Engineering Company

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"Save Coal or Quit Business."

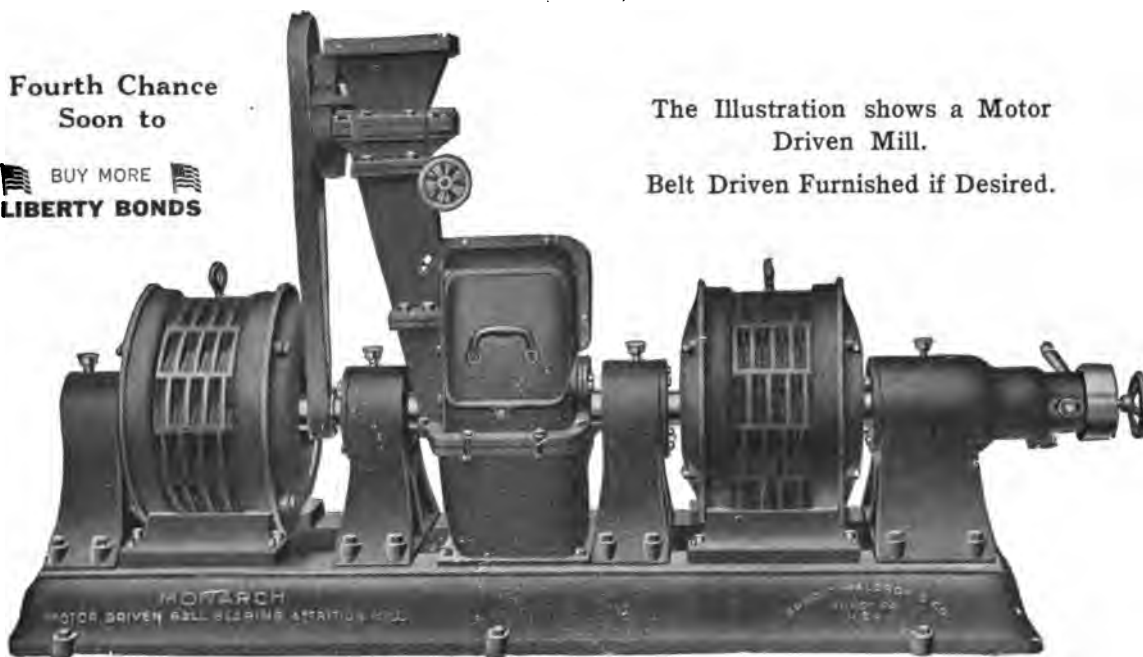
That is Practically What the Federal Fuel Administration Tells the Oil Mill Operator He Must Do. It Is a Command Which Cannot Be Ignored. THE MONARCH BALL BEARING ATTRITION CAKE MILL Will Help You Co-operate With the Government Where the Old-time Babbitt and Brass Bearing Mills Cannot Because They Are Not Made That Way. That's Their Misfortune Not Yours Provided You Install the Monarch.

Fourth Chance
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This Type of Mill Will Not Only Save Coal (Conserves From 25 to 50 Per Cent Power), But Also Saves Labor (Less Attention Required to Operate) and Saves Grease (Compression Cups Need Little Attention).

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FOR YOUR COUNTRY'S SAKE.

Sprout, Waldron & Company

Full Line of Ball Bearing Cotton Seed Oil Machinery

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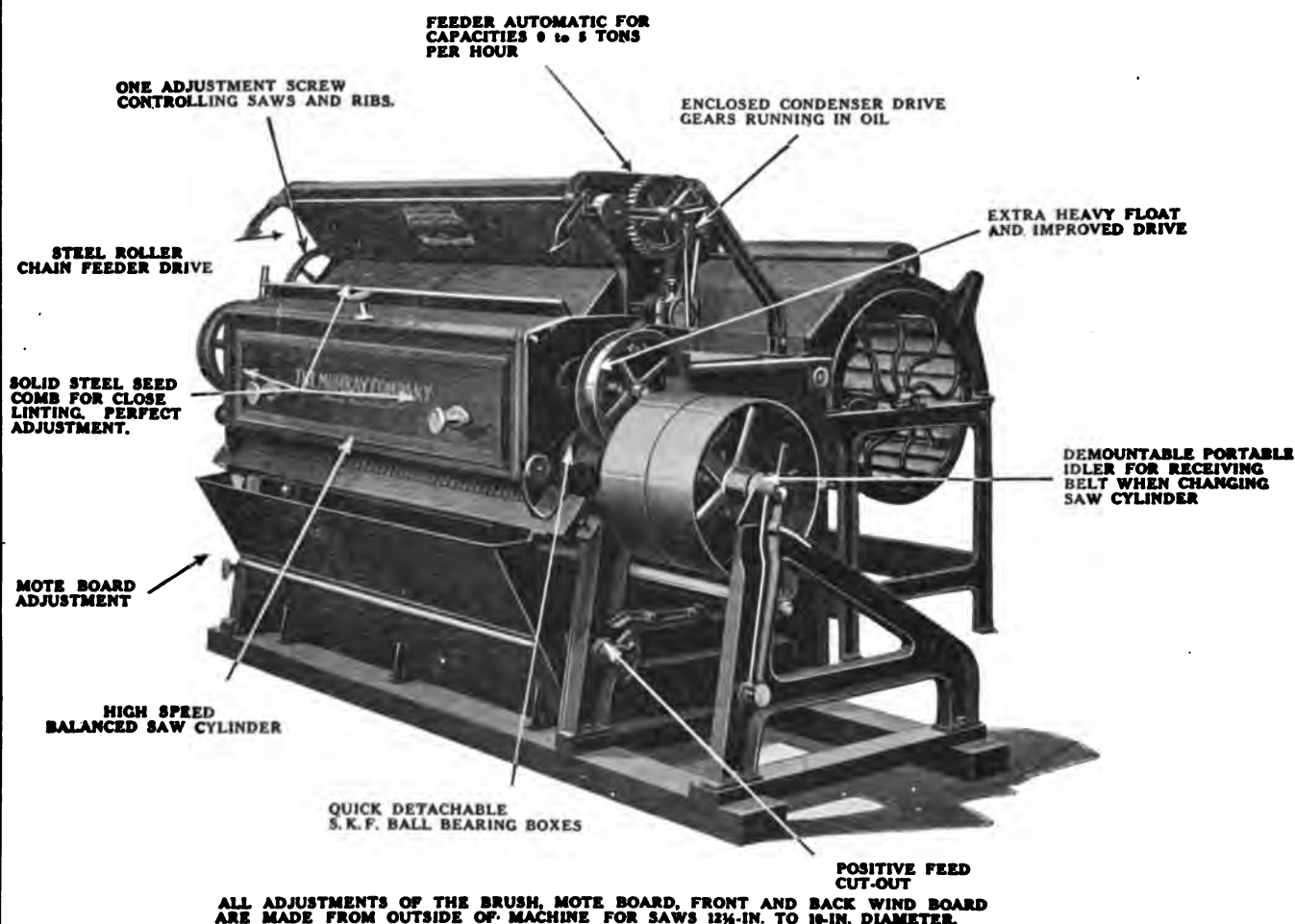
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Large Capacity, Close Linting, Small Power Consumed, Clean Lint, Clean Seed, Single Overhead Line Shaft Drive, Easy to Install and Operate.

100% Efficiency at All Times Delinting Cotton Seed or Cotton Seed Hulls.

For Saw Operating Speeds—750 to 1000 R. P. M.

Complete Line of Modern Up-to-Date Machinery for Cotton Seed Oil Mills.

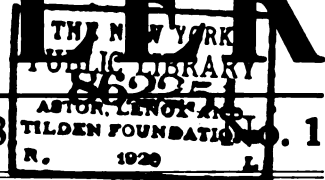
Write us for Specifications, Prices, Etc.

THE MURRAY COMPANY
ATLANTA U. S. A. DALLAS

THE OIL MILLER

Vol. 9.

Atlanta, Ga., September 15, 1918



THE OIL MILLER

Published Monthly by the
OIL MILLER PUBLISHING CO.

GEORGE E. STEPHENS,
President and Editor.

MARY R. BURRUSS,
Secretary.
Atlanta, Ga.

Subscription Price: \$1.00 per Year.
Three Years for \$2.00

Address all communications to The Oil Miller,
Empire Bldg., Atlanta, Ga.

Advertising Rates Furnished Upon Application.

Entered as second-class matter March 4th, 1913, at post
office at Atlanta, Ga., under act of March 3rd, 1879.

Official Organ Alabama Cotton Seed Crushers Assn.
Official Organ Arkansas Cotton Seed Crushers Association.
Official Organ Inter-State Oil Mill Superintendents Assn.
Official Organ North Carolina Cotton Seed Crushers Assn.
Official Organ Cotton Seed Crushers Assn. of Georgia.
Official Organ Mississippi Cottonseed Crushers Assn.
Official Organ Louisiana Cotton Seed Crushers Assn.
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HOW TIMES HAVE CHANGED!

From the time Uncle Noah packed his animals in the ark and started out to show his confidence in a splendid line of goods (the word of the Almighty) down to the summer of 1918 it has been the custom of the world and particularly that considerable part of it known as the Little Old U. S. A. to recognize the commanding power of the commercial traveler.

But times, indeed, have changed.

Today we find the commercial traveler sitting at home beneath his own vine and fig tree cussing the Hun for getting us into this mess and with all prospects of good commissions, to say nothing of a first class salary and "expenses," vanishing into thin air.

The commercial buyer has taken to the road. With Uncle Sam commandeering material and labor

right and left and with manufacturers and jobbers as much at sea as any one else in the business world, the man in the oil mill industry who wants goods these days must pack up his grip, kiss friend wife good-bye and go out into the highways and byways to find them.

This is where the commercial traveler gets a chance to give the merry "ha ha" to the man who heretofore has dubbed him a "drummer," but somehow or other there isn't a whole lot of fun doing it, considering again those commission plums that are drying on the tree.

These remarks were occasioned on a recent morning when our old friend Dan P. Baker, superintendent of the Ouachita Cotton Oil Company's plant at Camden, Ark., came strolling into the Oil Miller office in Atlanta. A few weeks ago the Ouachita mill had a fire, the press and linter rooms being practically destroyed. Of course it was necessary to rebuild them at once. But the commercial traveler of the old time, while still in business, didn't satisfy Dan so he got aboard a train and headed for the manufacturing centers.

After spending a day or two in Atlanta, Mr. Baker continued on his journey, heading for Richmond and going from there to Springfield, O., and then on home.

Further, we hear much in this country about the development of foreign trade. It is true but just now there are perhaps more buyers from foreign fields coming to the United States to buy goods than there are salesmen going from here to foreign fields to sell goods.

This is particularly true of oil mill machinery with the copra demand far in the lead.

Within two days two men from afar visited the Oil Miller office looking up the general situation. One of them, Mr. Fermin Francisco, comes from Manila where he is interested in oil milling. The other, Mr. O. K. Piquet, of Rio de Janeiro Brazil, is here for general information. He represents Dr. Trajano de Medeiros and Company, of that city, who has a big contract for crushing seed for the Brazilian government and represents the Brazilian Department of Agriculture as well as Dr. de Medeiros.

With all this flocking to the buying centers it appears that the commercial traveler may become the uncommercial traveler.

CARTOONIST GOES TO WAR.

That his sword will prove to be as mighty as his pen is the confident prediction of the host of friends of Cecil James Holleran of Atlanta, Ga., whose cartoons in the Oil Miller for more than a year past have found a warm welcome among the readers of this publication.

For some time past Mr. Holleran has been getting his affairs into shape to enter the service of his country and on the morning of August 22 he entered the office of a recruiting station in Atlanta and said he wanted to enlist in the engineering corps



C. J. HOLLERAN.

as he believed that his talent and training would be more valuable in that department than elsewhere. Mr. Holleran was received with open arms for the service constantly demands men of that kind.

After passing all examinations with credit, Mr. Holleran informed the recruiting officer that he could leave in about ten days. "There's a train going to Chattanooga tonight at 5 o'clock. Be on it", was the answer. That left the cartoonist three hours to get ready for France. We have a mental picture of some hustling that would put to shame the efforts of many of the oil mill men whose strug-

gles in this line Mr. Holleran has been so fond of depicting in the Oil Miller. But at 5 o'clock on that hot August afternoon, Mr. Holleran was on the train. He has been assigned to the 472nd Engineers and entered preliminary training at Camp Forrest, Fort Oglethorpe, Chattanooga, Tenn.

Uncle Sam's new soldier will probably make a specialty of topography which is an important essential in the conduct of an army campaign. This will bring him directly under the fire of the enemy guns where he wants to be. He could also do a fine and artistic job in camouflage if called upon.

Mr. Holleran received his art training under that well known teacher, Lewis C. Gregg, cartoonist for the Atlanta Constitution. Early in his career he showed a decided taste for cartoon work and his quick sense of humor found ready expression in his drawings, as all readers of the Oil Miller know. His father is in the quartermaster's department of the army in a civilian capacity and a brother is in France with the British Royal Flying Corps.

The Oil Miller voices the sentiment of its many readers when it says good-bye and good luck to Cecil J. Holleran and wishes for him the greatest possible success in his loyal service under the flag.

MR. WATKINS BUT NOT MR. WATKINS.

The friends of Mr. H. E. Watkins noted in the August issue of the Oil Miller that a politician in this section slipped his picture in under the name of the able president of the Cotton Seed Crushers of Georgia. This was a matter of regret to us and in explanation we would say that the publishers of The Oil Miller obtained the cut from another publication in this city and the similarity in names caused the mix-up.

PRICE OF SEED FIXED.

The price which the mills are to pay for seed has been the one subject uppermost in the minds of the mill men during the past few weeks. There have been almost daily conferences between the representatives of the mills and the food administrators. The officers of the state organizations have been in daily touch with Washington and the mills of their states. All efforts have been expended to settle on a price which shall be fair to the farmer, the mills and the ultimate consumers of the products.

The amount of \$18.50 spread per ton was determined upon after studying the conditions from Texas to the Carolinas. Some of the mills feel that this is too close a margin and that they will show a balance on the wrong side of the ledger; others located where labor is more plentiful do not feel so doubtful of the outcome. Should this spread of \$18.50 prove so low as to prohibit the operation of the mills there will, no doubt, arise some way of having the subject reopened.

On September 7th Mr. Louis Geldert, secretary of War Service Committee of Interstate Cotton Seed Crushers Association sent the following telegram to the presidents of the state organizations:

'Food Administration announces stabilization of cotton seed price based on recommendations of producers to stabilize at average price of last year fundamental basis being on yield of forty-one gallons oil. Refiners have agreed on seventeen and half for oil and Food Administration will assist in maintaining that price throughout season. State Administrators, excepting Arkansas, Louisiana and Texas, agreed on prices to pay for seed f. o. b. stations carload lots. Thirty-six per cent meal will be fifty three dollars and not exceeding fifty seven for forty three per cent. Oklahoma Administrator announces fifty-four dollars for forty per cent meal. Oklahoma two zones with thirty-seven gallon oil yields allows sixty-nine for seed. Tennessee one zone forty-one gallons seed, sixty-nine dollars. Alabama and Georgia, forty-two gallons seed, seventy-one dollars. South Carolina, forty-three gallons seed, seventy-two dollars. North Carolina, two zones with forty-one and forty-two gallons, respectively, seed, seventy-two dollars. Mississippi two zones Delta, forty-four gallons seed, seventy-four dollars; Hill forty gallons seed, seventy-one dollars. Hoover is pressing war industries board for increase linter price which if granted will be applied solely to reduction of meal price for benefit of cattle feeders. War Service Bulletin tonight giving more details.'

In regard to the fairness of the above yields and prices Mr. H. E. Watkins, President the Cotton Seed Crushers of Georgia says:

"While it may seem to some that these yields are high, at the same time the Food Administration could hardly have done otherwise, under the circumstances, and it is certainly most desirable, from the mill standpoint, that prices BE STABILIZED, and that the industry be stabilized for the entire season."

THE MANICURE PARLOR IN THE OIL MILL.

We recall that when we were kids one of the chief attractions of pulling molasses candy was that it whitened the hands. Of course this was accompanied by a tendency to darken the taffy, the shade depending largely upon the condition of said hands immediately upon the beginning of the operation. However, the candy always tasted just as good and there was the added satisfaction of not having to scrub, which means much to a busy small boy.

But since the advent of the germ theory in our modern medical practice, the small boy's soiled hands have gone the way of many old customs and it is all for the best.

Then, too, the small boy was not the only one

who sought to camouflage in this regard. The woman butter maker only too often resorted to the same trick. Now she too must give up the practice.

The modern food producing factory must be clean. We doubt if there is any other one part of the manufacture of food that is more insisted upon than this.

It is not strange, therefore, that oleomargarine factories have manicure parlors in operation in their plants. What is more—employees who handle the product must have their nails manicured to hold their jobs. In the very interesting article in this number of the Oil Miller written for this publication by Mr. E. Keebler, chief engineer of the Mechanical Manufacturing Company, of Chicago, attention is directed to this feature of the industry. In illustration No. 2 just to the left of the "north east" corner may be seen the door leading into the manicuring parlors conducted by a modern oleomargarine plant.

It is no task upon the imagination to picture the oil milling plant at some future day also equipped with its manicuring parlor. The department is sure to be popular if the average, cute little blonde is installed as manager.

BRAZILIAN CRUSHER HERE.

Mr. O. K. Piquet, representing the firm of Trajano de Medeiros & Co., of Rio de Janeiro, Brazil, as well as the Brazilian Department of Agriculture, is spending several weeks in the United States looking up the oil milling industry. Mr. Piquet's company has a big contract with the Brazilian government for crushing seed. Concerning the situation in Brazil, Mr. Piquet upon a recent call at the office of the Oil Miller said that his country is awake to the possibilities of the development of the industry. Cottonseed, peanuts, etc., are being crushed as well as a large amount of native nuts. Regarding the crushing of the baba assu nut which has attracted the attention of crushers in the United States recently, Mr. Piquet says that no method has yet been found of successfully removing the kernel from the shell on account of the hardness of the latter. Any machinery strong enough to crush the shell will also crush the kernel. The kernel is very rich in oil, the pressing between the fingers of the hand resulting in a very appreciable flow. Mr. Piquet is visiting agricultural stations, factories and mills.

Every idle hour helps the Kaiser in his damnable attempt to enslave the world. Wherever we are, or whatever we are doing, let us do our work a little better.

The Manufacture of Oleomargarine

An Interesting Article Prepared Especially for the Oil Miller by Mr. E. Keebler, Chief Engineer of the Mechanical Manufacturing Company of Chicago on the Manufacture of this Product.

(Editor's Note.—Readers of the Oil Miller will recall a most interesting article in the January issue by Mr. Glenn H. Pickard, of Chicago, the well known chemist, on the ingredients used in the manufacture of nut margarine. In the following article prepared especially for the Oil Miller by Mr. E. Keebler, chief engineer of the Mechanical Manufacturing Company of Chicago, the reader is given an insight into the actual working methods and conditions surrounding the churning, working and packing of oleomargarine as employed in some of

United States	1½ lbs.
Great Britain	8½ lbs.
Holland	20 lbs.
Norway	33½ lbs.
Denmark	43 lbs.

While no figures are obtainable as to the relative amount used at present by the different countries, it is interesting to know that in this country alone 152,000,000 pounds were consumed in 1916, while this amount was increased to 232,000,000 pounds in



Photograph from the Mechanical Manufacturing Co.

1. Apparatus for Melting Hard Oils in a Sanitary Factory.

the largest margarine producing plants in this country.)

The manufacture of oleomargarine should be of considerable interest to producers of the various kinds of edible oils both animal and vegetable because of the enormous consumption of these oils which the afore mentioned industry demands. It will be interesting to compare the consumption of oleomargarine per capita of the various countries in 1909.

1917, and estimates from a reliable source place the 1918 figure at 350,000,000 pounds.

The term oleomargarine as defined by law covers not only that class of margarine which contains oleo and other animal oils, but, also that comparatively new product, termed nut margarine, which contains only vegetable oils. Some manufacturers are experiencing considerable difficulty in producing a satisfactory nut margarine on account of being unable to keep the melting point above 75 de-

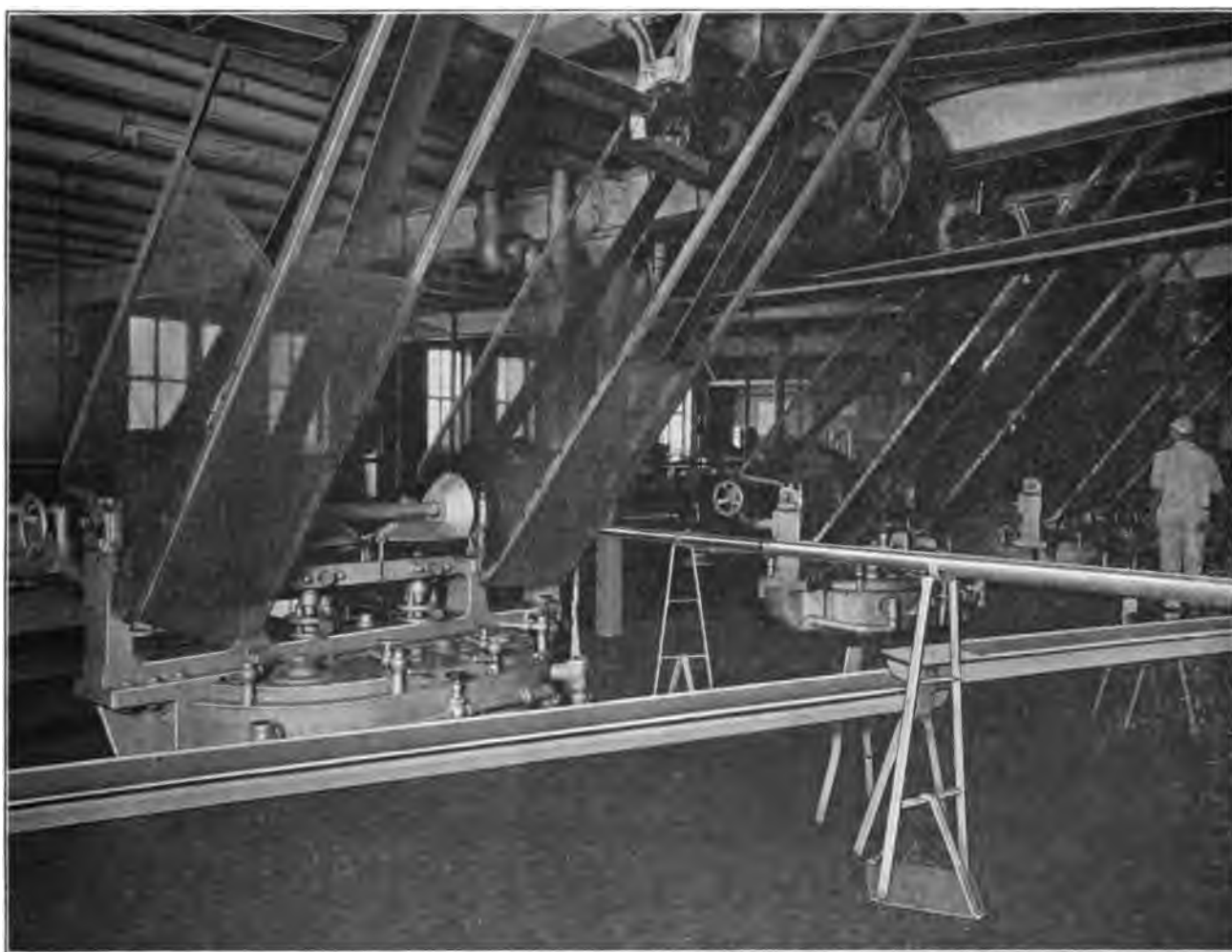
grees while butter and most grades of oleomargarine melt about 92 degrees. However, this difficulty has already been overcome by some manufacturers, one of whom has produced nut margarine claimed to have a melting point of 107 degrees.

Preparing the Oils.

Nut margarine is now made by the same process and with the same equipment as oleomargarine. Both kinds of oleomargarine have for a base certain hard and soft oils, the soft oils are generally kept in storage tanks which have their out-let convenient to discharge into a tank set on a movable scale. The hard oils are weighed and placed in the melters shown in illustration No. 1. These melters

cleansing.) These churns are driven by double sets of driving pulleys to facilitate changing the speed, to suit the grade of product being churned.

All parts of these churns which come in contact with the emulsion are coated with tin, and the tanks are surrounded completely by a water jacket, the temperature of which varies from 85 degrees to 125 degrees, the higher temperature being required for the lower grade product in order to keep liquid the materials used. The batch is churned from 12 to 18 minutes in these machines, depending upon the grade of product, the longer time being required for a higher grade product containing a relatively high percentage of milk.



2. Oleomargarine Churns, with Open Trough in the Foreground.

which are equipped with agitators, are tin lined, and have a capacity of 3,000 pounds each. It should be noted that all the ingredients of oleomargarine are proportioned by weight.

Churning.

The melted hard oils, and soft oils are conveyed through open tin troughs shown in the illustration in figure No. 2. Here they are churned with sterilized and pasteurized milk which is conveyed through open tin troughs shown in the illustration. (Open troughs are used to facilitate thorough

The Mechanical Manufacturing Company have recently put on the market a new type of under-driven churn which has all the driving machinery located in a cast iron base, leaving the top of the churn as well as the entire floor free from driving machinery. This construction is a step towards that goal for which all oleomargarine manufacturers are striving namely, sanitation.

An example of the care required in the manufacture of oleomargarine is shown by the fact that the manufacturers are using automatic temperature

control for the water jackets of these churns. This control consists of an air-operated, thermostatic-controlled device with means of changing the setting quickly. The use of this device has eliminated all guess work in keeping the water at the proper temperature.

After churning, the batch is discharged through a wooden chute or flume (shown in illustration No. 3) at the end of which a wide flat nozzle sprays water at a temperature of 36 degrees to 44 degrees on the emulsion, solidifying it.

The wood trucks shown are used to catch the

Working and Forming.

The ripened oleomargarine is placed on large circular workers or kneading tables about 8 feet in diameter where it is kneaded or worked by means of curved wood plows and fluted rolls to remove the excess moisture. The dairy salt in proper proportions is added at this time also.

In some grades of oleomargarine, it is found that after working, the moisture content is too low, in other words it is dry. For this purpose a machine is provided in which moisture is added or blended into the oleomargarine. This "blending



3. Scene Showing Crystallizing Chute and Ripening Trucks.

oleomargarine and are provided with drains to permit removal of the liquid. The bodies of these trucks are removable from the running gear to permit thorough cleansing. It will be noticed that they are made of wood, in fact no metal is permitted to come in contact with the oleomargarine from the time it is solidified.

The loaded trucks are pushed into a room the temperature of which is kept constantly close to 70 degrees. Here a chemical change takes place, developing the flavor, this is commonly known as ripening.

machine" is also used in reducing the color or bleaching. Some states, Iowa, Wisconsin, Pennsylvania and South Dakota permit the sale of absolutely white oleomargarine only, others allow the naturally colored product to be sold only and still other states permit the sale of artificially colored oleomargarine.

The average manufacturer produces about 60 per cent prints and 40 per cent bulk or in tubs. This of course will vary with the kind of trade and time of the year.

There are various methods employed to form the

oleomargarine into prints for cartons. Some use an oblong table on which is mounted a movable roller which flattens the product into a slab of the proper thickness. Hand moulds of wood with sliding bottoms are then used to press out the prints. A machine recently developed by the Mechanical Manufacturing Company of Chicago, forms and cuts the prints to size and weight. This machine, shown in illustration No. 4, has a capacity of 25,000 pounds per day and requires only one horsepower to drive it.

The prints after being formed are placed on wood trays which are carried by trucks or trolleys to the chill room where they are left for a few hours to harden sufficiently to permit handling.

The wrapping of the prints is done on a long table having a canvas belt conveyor top. The various operations of wrapping placing in cartons, sealing, and checking are performed here.

A close inspection of illustration No. 2 will disclose a small manicuring parlor in the far corner of the room. Wood paddles and shovels should be supplied for those who handle the product.

It should also be remembered that it is impossible to make acceptable butterine with improperly refined or deodorized oils or rancid fats. Before shipping the manufacturer should test his product for color, curd fat, moisture, and salt and grade accordingly.

Experience is necessary to the successful manufacture of butter substitutes, as numerous and widely varied conditions are to be carefully considered. Many manufacturers of this product have learned from sad experience that it is far wiser to employ a first class experienced man in starting a plant than to trust its operation to unexperienced help.

Materials and Proportions Used.

The following tables show approximately the pro-

Oleomargarine (Animal Oils).

	Oleo Oil Lbs.	Cotton Seed Oil Lbs.	Neutral Lard Lbs.	Oleo Stearine Lbs.	Salt Lbs.	Cream	Milk	Misc.	Remarks
1	600	200	200	.....	125	2 Cans	3 Cans	.....	(Fair)
2	400	200	300	.....	125	90 lbs.	200 lbs.	200 lbs.	(Good)
								Butter	
3	100 Yellow	550	.....	100	125	.....	4 Cans Skim	250 lbs.	(Cheap)
4	100 Yellow	550	.....	100	125	.....	4 Cans Skim	200 lbs.	(Cheap)
5	525	.....	475	.....	50	225 lbs.	.....	300 lbs.	(Good)
6	525	.....	475	.....	65 to 75	300 lbs.	.....	.....	(Good)
7	600 Yellow	200	200	.....	125	2 Cans	3 Cans	.....	(Fair)
8	300 (PSY)	200	350	.....	60	.....	150 lbs.	.....	(Fair)

Standard milk and cream cans contain about 85 pounds.

Cream should be 18 per cent acid and 17 per cent butter fat and milk 18 per cent and 3½ per cent, respectively.

Oleomargarine (Vegetable Oils)

Cocoanut Oil 425 lbs.	Cottonseed or Peanut Oil 100 lbs.	Skim Milk 250 lbs.	Salt As market requires.
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The manufacture of oleomargarine requires care at every step to obtain proper flavor and grain. Absolute cleanliness is essential and to this end all machinery, containers, utensils etc., must be frequently and thoroughly cleansed and sterilized, making generous use of steam and hot water.

Absolute cleanliness in respect to body and clothing should be insisted upon. It is customary to employ a manicurist to take care of the hands of those who possibly come in contact with the margarine.

portions and materials used. There are all kinds of formulae, governed by cost and availability of material and prices obtainable for the finished product.

Peanut oil has been used for some time and the indications are that it will be used more extensively in the future.

The use of copra and soybean oils, while at present is not great, yet there is a promising field for

development and without a doubt they will play a prominent part in this industry in the future.

Factory Layout.

The ideal arrangement for an oleomargarine factory is a four-story brick building. On the fourth floor, to which all the ingredients used in manufacturing are elevated, should be located the melting tanks and storage tanks for the soft oils. The remainder of the floor can be used for barrel storage, a barrel steaming box and a small laboratory for oil and oleomargarine testing.

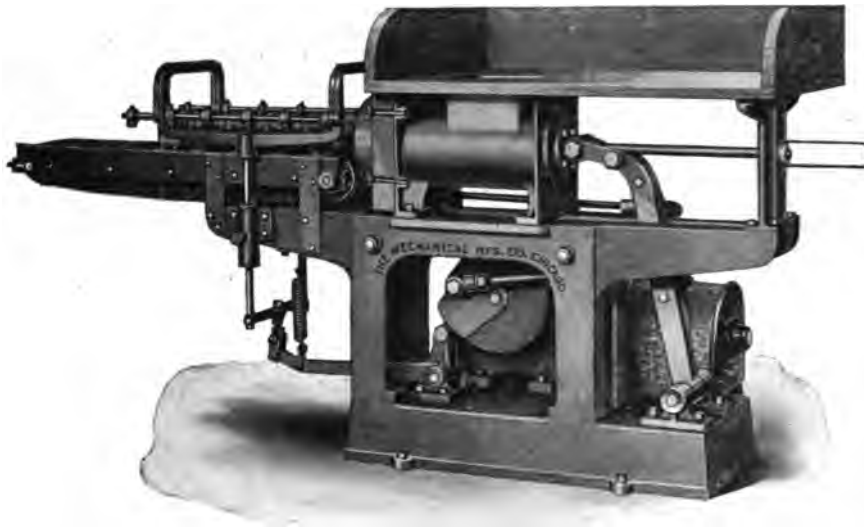
On the third floor should be located the sterilizing and pasteurizing equipment in an enclosed room, with the machines elevated a few feet above the floor. The emulsion churns are also located on this

save all grease, which can be sold on the market as a good grade of inedible grease.

The modern oleomargarine factory building has double, and sometimes triple, glass windows to exclude dust and obnoxious fumes, and uses a forced circulation washed air system. All these precautions prove the statement that the manufacture of this food product is a delicate and careful process, safeguarded at all times from a sanitary standpoint, and using only such material as is tested and proven to be absolutely satisfactory.

NO PLACE FOR HESITATION.

If our soldier boys deliberated as long over doing their duty as some of our people at home hesitate over doing theirs, the victory would be doubtful.



4. Machine for Forming Prints from Bulk Oleomargarine.

floor and set so that the top of the tanks are about 6 inches or 8 inches above the floor level. This method of setting up protects against any danger of water or other foreign material from entering into the churns.

Needless to say that the floors should be made of waterproof material, and pitched properly to drain off all moisture. On the floor immediately below the churns should be located the crystalizing vats or flumes, and ample space should be provided for truck storage. The trucks are usually lowered by an elevator to the floor below where the ripening room is located. On this floor the kneading tables and print forming tables are also located, in fact one large room can be used for both machinery and ripening room. Adjoining this room a freezer should be located to harden the butterine before wrapping. The Wrapping Room should be located close to the Freezer if space is available on this floor. The shipping department could also be located here.

The up-to-date manager uses a small, enclosed rendering tank to cook the drain water in order to

It is a sort of financial cowardice to hesitate to put your money in United States Government securities, and to deliberate over the wisdom and patriotism of the investment is to hesitate in supporting our soldiers.—National Provisioner.

THE MAIN BELTING COMPANY.

Readers of the Oil Miller will be attracted in this month's issue to the full page advertisement of the Main Belting Company. This company established a southern branch at Birmingham, Ala., six years ago. Later, owing to conditions, this branch was given up and only a representative was maintained in this field. However, in the early part of last year a branch was established in Atlanta, Ga., at 64 South Forsyth Street and last April Mr. Charles G. Sherman, who had been the company's representative in Kansas City was made district manager. Since that time the business of this company has grown by leaps and bounds. Speaking to the editor of the Oil Miller recently Mr. Sherman said:

"The growth of the business of the Main Belting Company in the south east during the past few

months has been phenomenal. In the Carolinas, Georgia and Alabama our business for July was 300 per cent greater than for the same month last year. Texas also showed an increase of about 200 per cent over last year. This business has not come to us in spurts. The increase has been steady. Further, this increase in our business has been mainly with the oil mills.

"The president of the Main Belting Company, Mr. W. T. Plummer and the general sales manager Mr. L. L. Gerstenberger, as well as Mr. W. C. Schreiner, manager of Philadelphia, all have the utmost confidence in the south, realizing that the oil mill men in particular appreciate a belt that is built for service.

"We school all of our salesmen before they go on the road and as a result they are thoroughly familiar with every part of the work. We do not sell our goods through jobbers but go direct to buyers. We want to know conditions in every mill where we sell a belt in order to give the customer entire satisfaction and assure ourselves that our belts are doing the best work that any belt will do. Mr. F. L. McIlwain, for many years with the Draper Company, and a belt engineer of unusual ability and long experience, installs our belts and tells our customers exactly what to expect of our goods. We believe that a belt will work best when a particular need is filled by a particular piece of goods and that is why Mr. McIlwain is instructed to give customers complete information. We give quick service. At our Atlanta branch we have the largest stock of belting in the south and keep it so at all times. Our salesmen are furnished automobiles so they can answer a call by wire and be in the plant in a very short time. That is the kind of business we solicit, up-to-date, quick action and then thorough and frequent examinations after the goods have been installed.

"Every three months we have a meeting of salesmen for this section when we talk over the problems that are found in the oil mills. Experiences are exchanged that prove very valuable. At our last meeting in Atlanta we discussed thoroughly the question of coal combustion as that is a problem of vital importance to every oil mill manager and superintendent which rightly comes under the head of efficient transmission of power. The following representatives were present: A. J. Cook, Chattanooga, Tenn.; Herbert Clark, Vicksburg, Miss.; P. L. Munford, Birmingham, Ala.; H. R. Dunlap, Atlanta, Ga.; F. R. House, Charlotte, N. C., representing the Carolinas, Mr. McIlwain, whose headquarters are in Atlanta, and myself. We find this plan is meeting with great favor among our customers and they are giving us problems to be discussed at these meetings and then referred back to them. The Main Belting Company expects to in-

crease its business very largely in the future by giving this direct, personal sales attention to our customers."

AGAIN, THE YELLOW IN THE BUTTER.

Federal Food Administrator Herbert Hoover has called for 400,000,000 pounds of fats as one of the greatest needs of war times in Europe. Crushers of cottonseed, peanuts and other edible oils declare that the cottonseed industry alone would furnish a quarter of the immense amount asked for by Mr. Hoover.

One of the greatest uses to which the edible oils are put is the making of substitutes for butter.

Only the other day we walked into a grocery store and asked for a pound of butter. We got it and paid 55 cents for it. The yellow coloring in that butter looked like a sunset painted by an artist suffering from sunstroke. It couldn't have been given that coloring by the finest Jersey on earth unless she had been fed on a ton of carrots.

Right in the next box to the butter was a butter substitute made from an edible oil. It was white—lily white. The price was 32 cents a pound. But the United States government had declared that this butter substitute could not be sold and shipped with coloring worked into it even though it was plainly printed on the outside of the package that it was a substitute.

All this wail is not so much that the price of butter substitutes should be advanced as that butter "substitutes" filled up with coloring matter demand a premium.

Perhaps with this immense demand for fats which the southern cotton fields are filling we will some day get to a place where congress will grant the industry proper recognition.

THE FOURTH LIBERTY LOAN.

It has been announced by the Secretary of the Treasury that the Fourth Liberty Loan campaign will commence September 28th and will continue three weeks. During this time we must pledge \$8,000,000,000. A monumental sum—but we are a monumental people and we have an end in view which is worth any price, an end we will gain by the piling up of the strength and resources of the nation as a whole. You are not asked to give anything to this loan fund; you are asked to lend your savings at a fair rate of interest upon the best of security.

Every oil mill man has some money which he can, and we confidently believe will, put into Liberty Bonds. Don't pat yourself on the back because you already own a Liberty Bond, but make it a matter of pride to own some of every issue. Also don't wait until October 18th to buy your bond but be one of the first purchasers of the campaign and

let us frighten the Hun with our readiness to furnish the funds as the boys across the seas frighten him with their bayonets.

MORE TRUTH THAN POETRY.

One of the advertisers in the Oil Miller recently called their customers' attention to the following verses. Could the mills know the mental anguish put forth to get their shipments out at all they would consider six weeks delay, "prompt shipment."

Keep your temper, gentle sir,
Writes the manufacturer;
Though your goods are overdue
For a month, or maybe two,
We can't help it, please don't swear;
Labor's scarce and paper is rare.
Can't get ink, can't get dyes,
These are facts, we tell no lies.

Harry's drafted, so is Bill.
All our work is now uphill,
So your order, we're afraid,
May be still a bit delayed.
Still, you'll get it—don't be vexed.
Maybe this month, maybe next.
Keep on hoping, don't say die.
We'll fill your order bye and bye.

EARLY COTTON SEED.

From the Fort Worth Laboratories:

The seed analyzed so far this season shows a decided less oil content than last season's seed. The content of ammonia is higher and the per cent of hulls is greater. The increased per cent of hulls is due to the seed being smaller than usual.

The following tables shows the analysis and possible yields of cottonseed analyzed to August 22, 1918; compared with the yearly average of previous years:

	Ammonia		Yield		100
	Moisture	In Seed	Meats	Oil	Waste
	%	%	%	%	Lbs. 8%
Average to 8-22-18..	7.51	4.45	52.7	16.50	34.2
Avg. Season 1917-18....	7.90	4.26	54.0	17.41	36.5
Avg. Season 1916-17....	8.05	4.25	53.3	18.18	38.5
Avg. Season 1915-16....	9.08	4.12	53.3	18.04	38.1
Avg. Season 1914-15....	9.48	4.24	55.8	16.91	35.2

These figures show that if oil mills base their price for cottonseed upon yields obtained in previous years they will lose money. This point is recognized by a number of mills who are having every car of seed and cake analyzed.

THE FORT WORTH LABORATORIES.

R. H. FASH, V. Pres.

A GOOD WORK PLANNED BY SUPERINTENDENTS.

The National Oil Mill Superintendents' Association is endeavoring to have the local colleges of the cotton growing states install chairs or courses on Cotton Oil Milling. The committee which has this matter in charge is Mr. H. E. Wilson, of Navasota, Texas; Mr. F. C. Holley, of Memphis, Tenn., and Mr. D. B. Denny, of Greenville, Texas with President P. Z. Harlee, of Birmingham, Ala., acting with them. This matter has been brought to the notice of some of the colleges and there is a feeling that such instruction would be much appreciated by the students. Textile engineering has long been taught and it is high time that the science of vegetable oil milling should be given due attention.

COMPARATIVE REPORT OF LAW & COMPANY, INC.

Sept. 1, 1918.

We find the average of seed samples analyzed in our laboratories for August 1911, 1912, 1913, 1914, 1915, 1916, 1917 and 1918 to be as follows:

					Gals. Oil per Ton			Lbs.
	Dam- aged	Meats	Moisture	Oil	Am- monia	Best Work	Avg. Work	Meal 7%
Aug.	6.20%	57.90%	11.75%	20.70%	3.64%	45.9	44.4	988
1911	6.20%	57.90%	11.75%	20.70%	3.64%	45.9	44.4	988
1912	12.10	53.70	11.68	20.10	3.34	44.4	42.9	907
1913	1.90	56.40	11.77	20.30	3.48	44.9	43.4	945
1914	6.50	55.30	12.12	19.65	3.54	43.3	41.8	962
1915	1.70	54.55	11.45	18.80	3.64	41.1	39.6	988
1916	4.40	55.05	12.84	20.30	3.24	44.9	43.4	880
1917	4.00	55.05	14.00	18.70	3.60	40.8	39.3	977
1918	4.00	54.30	11.40	19.00	3.54	41.6	40.1	962
Eight Yr.								
Avg.	5.10	55.43	12.13	19.70	3.50	43.4	41.9	906

For the third time in the past four years it appears that cotton maturing in dry weather will produce seed low in oil and high in ammonia. Notice the similarity between August 1915, 1917 and 1918 and the marked difference of 1916 which was the year that we had such a heavy rainfall in that month. The seed analyzed during the past few days show an even further deficiency in oil than the average indicates. As usual we hesitate to make a prediction for the season based on August seed as it so often happens that weather conditions in other or later maturing sections will reverse the composition of seed in September and October, but we believe the mills can only play safe by figuring on no greater yield than was obtained last season. We call special attention to the nearly two gallon deficiency of this August as compared with the eight year August average.

For comparative purposes the moisture shows that this season is a little better than the eight-year average but due to the fact that most of our samples are forwarded in paper packages and thus dry out in transit it is safe to estimate the moisture at the mill as at least two per cent higher. The dif-

ference is greater this year than usual as on account of the excessive cost of metal containers more of the mills are using paper envelopes.

The variation in results this year is even greater than usual. The highest oil is 21.60 per cent, or 46.7 available gallons, and the lowest 15.80 per cent, or 32 available gallons. This means a difference of \$19.30 per ton in the value of oil. The lowest ammonia is 2.88 per cent, or 782 available pounds, and the highest 4.14 per cent, or 1123 available pounds. The difference in 7 per cent ammonia meal value here is \$9.21 per ton of seed.

From the number of samples analyzed for lint the indication is that it will be very difficult to obtain the expected yield, especially from green seed. Based on almost perfect work in the lint room the average shows 139 available pounds per ton of seed.

We will issue monthly average reports as usual this season and show the comparisons for seven years. These reports will go only to our regular clients and if you are one of the few who are not with us we extend a most cordial invitation to join our most complete scientific organization for chemical control.

Respectfully,
LAW & COMPANY, Inc.,
By Thos C. Law, Pres.

COMMITTEE ON FATS.

In order to adequately cope with the vegetable and animal fat demands of our own country and of our allies, leading men in the oil milling industry have organized with others a war service committee composed of men from every branch of the industry which will meet with government officials in Washington.

Among the organizations represented at a recent meeting in Washington were the National and Southern Wholesale Grocers' Associations, the Interstate Cottonseed Crushers' Association, the National Peanut Cleaners' and Shellers' Association, and the Wholesale Bakers' Supply Houses.

Soap manufacturers were represented unofficially.

The committees which began their work immediately are as follows:

War Service—J. H. Du Bose, Memphis, chairman; J. A. Hawkinson, Chicago; John Aspergren, New York; H. M. Tucker, New York; E. L. Flippen, Dallas; W. M. Thompson, New York; E. E. Chasdlar, Chicago; W. E. McCaw, Cincinnati; B. D. Cash, Houston; H. B. Earling, Atlanta; J. D. Hill, Baltimore; E. Butterworth, Washington.

Rules—E. Kissling, Chicago, chairman; N. E. English, Chicago; J. Tyler, Atlanta; J. G. Cash, Jacksonville; Arjay Davies, Easton, Pa.; A. Boyd Memphis; J. A. Hawkinson, Chicago; F. W. McKee, New York.

Packages—William Rowe, New York, chairman; C. A. Sanford, Greenville, Texas; W. P. De Jarnette, Montgomery, Ala.; O. T. Shreve, Baltimore; W. W. James, Memphis; John Edward, Montgomery.

Price and Margins—E. L. Flippen, Dallas, Taxes, chairman; H. M. Tucker, New York; E. E. Chandler, Chicago; F. M. Barnes, Cincinnati; E. T. George, New Orleans; Ben D. Cash, Houston, Tex.

Marketing—R. R. Dupree, Cincinnati, chairman; H. M. Tucker, New York; J. T. Smith, Chicago; H. B. Darling, Atlanta; P. J. Beach, Houston, Texas; Howard R. Smith, Baltimore; Walter Hodgson, Athens, Ga.

Associated with this committee the following jobbers acted as advisors:—L. M. Hooper, Selma, Ga.; M. H. Hunt, Memphis; E. E. Humphreys, McClelland, Okla.; D. D. Milligan, Springfield, Mo.; A. W. Hershey, Charleston, W. Va.

REDUCE COST OF SWEEPING.

In the article in the August issue concerning the Pahmswepe line of brooms manufactured by the Florida Broom Factory of Jacksonville, Fla., it should have been stated that the manufacturers of the line figure that they reduce the high cost of sweeping 60 per cent not by charging 60 per cent less for their product but by selling a broom that will last twice as long at 30 per cent less. These brooms are not 60 per cent under the market value but from 25 to 30 per cent.

AN AMAZING DISCOVERY.

In the elaborate report recently issued by the esteemed Federal Trade Commission on the meat packing industry, it is learned that among other financial interests, such as stockyards companies, cattle loan companies, magazines, newspapers, railroads, stock cars, etc., controlled by the "Big Five," two cotton oil companies are included.

If the Trade Commission in all its investigation found only two cotton oil companies controlled by the packers, its report is indeed amazing to the oil milling industry.

ENGLISH HAVE THEIR TROUBLES, TOO.

The following clipping from an English paper (Birch's Quarterly) will find a hearty echo in the hearts of some who have endeavored to find out what were the official rulings.

"I get my oil from Perry he send me to the food Controler I rote to him, he refer me to oil and fat controler I wrote to him and he refer me to oil-seed comittee who refer me to you Crist Almighty who will you refer me to?"

THE FOOD ADMINISTRATION AND THE OIL MILLS.

An address delivered before the annual convention of the Inter-State Oil Mill Superintendents' Association at Atlanta, Ga., May 30, 1918, by Hon. G. Ogden Persons, of Forsyth, Ga., representing the Georgia Federal Food Administration.

The Food Administration of this state welcomes you to Georgia because of the fact that it appreciates that you are a very important factor in carrying on the work the Administration is seeking to carry on. It is the privilege of few of the American citizens to serve this government at this time in a way more important than that of the average citizen who stays at home and does not don the uniform. The Food Administration is directly in contact with that class of men, for the reason that it is trying to keep the battle line supplied with the things which the battle line needs to keep it in life and force and vigor.

President Wilson coined an expression at the beginning of this war that has been copied throughout the United States, which is: "Food Will Win the War." We don't think, sometimes, about the army that is behind the fighting line. We think more of the men in uniform, who bear the arms of the army, who bare their bodies to the dangers of the conflict, and who are wounded and who die, and they are the heroes, who survive and come back to us for future activities in civil life when the war is finished.

But war today has become one gigantic industry and scientific enterprise. The old wars that were fought were largely dynastic or capitalistic, which ever it may have been, and when armies went into a territory they expected to live off that territory. They usually sent out their foragers and gathered those things which were needed for the army, its sustenance and its life, and if they got it the army was in good condition, and the fighting men were kept up to the high key. If they did not get it, the army was placed in the pitiable condition of being unable to fight for the reason that it did not have the food and clothing with which to carry on the fight.

Some one has said that Napoleon made the statement: "If you will keep my army fed and their feet dry I will whip the world." He came very near telling the truth when he said it, and the United States, when it reluctantly entered into this war, although our people now, in the light of the facts which have been given since this conflict came on, are convinced that our great president realized the fact two years before we went into this war that we had to go into it, was not prepared for it.

America Before the War.

We were prosperous. We were happy. We were peace loving. We did not want to get into any

conflict. And therefore the public temper and the public mind were not atune to the information which had come to the executive himself, and we find the president postponing this evil day, which sooner or later was to overwhelm America and make her a joint, if not the principal, participant in the greatest conflict that the world has ever seen in all its history, and against our will.

And we have found, as this war has progressed, that the United States has assumed the important position of not only being probably the greatest military factor in the conflict on the other side today, but it is, absolutely, the smokehouse and granary of our Allies.

And then we found it necessary to put into force, through an act of congress, what is known as the Food Administration bill, which did more to deprive the average citizen of America of those things which he has held as most sacred, and as the dearest of his liberties, than any one other law that has ever been enacted by the American congress, or that will ever be enacted again, for God save the world from a repetition of such a catastrophe as now overwhelms it. We went into the pantry of a man and said to him: "You shall eat this, and you shall not eat that. You shall take this quantity of this commodity, and that quantity of that commodity, but you shall not take any more."

For a long time we found our people rather rebellious, and yet it was not very long before we found out the big men, who were at the head of the various industries in this country, began to appreciate that the necessity of this Food Administration was apparent, and they entered into it with all the spirit and patriotism that America is capable of. As a matter of fact, the Food Administration never has had any trouble with an organization of this kind. The only individual that the Food Administration has had any trouble with is the small, petty dealer, or the unpatriotic consumer. We have no trouble with big business men, even though you cut their profits to the heart and direct them in the minutest detail as to how they shall manage their products as they come from their mills.

When this Food Administration law went into effect it necessarily had to take over as one of the first articles to be controlled that which you are engaged in manufacturing, and last spring, when we held the meeting of the cotton oil mill crushers in Atlanta, Ga., we found the Food Administration holding a meeting (you can say holding "their" meeting, because the Food Administration did not tell these cotton oil crushers what they should do, but the cotton oil crushers told the Food Administration and the government of the United States what it would do.) The consequences were, that they went through, overhauling the schedule of prices which were to control the purchase of cotton seed and the sale of their products.

It was their program. It was not the Food Administration's it was their's. But their's was found

to be so perfectly reasonable, and just, and in keeping with the necessities and demands of our country as to supplies of food and supplies which necessarily must be sent to the other side, that some of the cotton oil crushers in this state, one of whom I happen to know personally, declared that he could not operate his mills at a profit under the schedule fixed by the crushers themselves. That gives you some impression of the character or spirit of these men who owned the stock that operates these cotton oil mills throughout the south, when they were called upon by the United States government for their cooperation and their support.

I suppose that probably that provision in the Food Administration which is of the most concern to the cotton oil crushers was that provision which put an end to cut throat competition in the seed market in our state. In my little town, the dealers were going around the streets bidding on every wagon load of cotton seed that came into the town, one selling for the Buckeye and one for the Southern, and whatever other competition there may have been in the market, until there was no money for the oil mill. This most disastrous competition was so rampant that I have known some of my former friends to go out and speculate who had never before in their lives speculated upon cotton seed, and actually speculate on their own product.

When the Food Administration called this meeting of the cotton oil crushers in Atlanta they came here and agreed upon a price fair and reasonable, if not more than reasonable and then the business stabilized itself.

The government has placed a premium upon your productive ingenuity. That affects the superintendents of the oil mills probably more than it does the owners of the oil mills' stock. Of course, the owners of the stock of the mills which produce more fats from the ton of the cotton seed as it goes through your mill get the results in benefits or dividends. But so far as your ingenuity puts into force this thing which the Federal Government is now seeking to accomplish above all things, viz., increased production of food stuffs, applies to your intelligence, and that is the premium the government has placed upon your individual ability and loyal service.

If you do go out and produce more than the government has specified as the minimum, because it says there is a radius of increased productivity possible if the intelligence of the superintendents of the mills is applied, and if the latest and most improved machinery is used in the operation of these mills, then you are meeting and fulfilling the needs of the government.

You find this principle of the Food Administration's wish expressed very well on the front page of the Oil Miller, which reads as follows: "The Rulings of the United States Food Administration have put an

end to speculation and made the trading ability of all mills in the cotton oil industry equal. The only chance for bigger profits is in more efficient milling. Milling efficiency and chemical control are synonymous terms."

It is very interesting to a man like myself to walk out and see the machines in operation for the purpose of improving the increase in the products that you gentlemen are in charge of. It shows that the manufacturers are not idle. It shows the industrial ingenuity of the various superintendents who give their ideas expression as they find the need and room for improvements such, for instance, as has just been discussed here by you gentlemen in reference to sacking hulls, showing that you are doing all you can to save these by-products, and that is what the Food Administration is most interested in.

The remarkable thing about this Food Administration is that there is a spirit of cooperation among those producing the food stuffs because they realize the responsibility is upon them.

We cannot talk about any subject more important than this. The majority of us back here at home are probably more prosperous than we have ever been in our lives, our families enjoy more luxuries, pleasures and opportunities. None of us have yet been called upon to, or have really made, any serious sacrifice during this war. It is only those who have given up some loved one who have really sacrificed as yet.

When those who have given up their loved ones see the empty chair at their table, the mind's eye goes to the other side, where that terrible conflict is now in progress, and that boy or girl, if there should be a girl in the Red Cross—that boy or girl that wears the uniform and bears the arms of our country is the nearest and dearest possession that one has got in life except the relationship which one bears to the rest of the family.

And as your mind's eye goes to the other side you wonder how the boy is faring. Is he getting plenty to eat? Does he have plenty of clothes to wear? Is he given all the comforts that is possible under the conditions of the trenches and the terrible warfare? And if he is not getting those things then you want him to get them.

I heard a woman on the train talking about her son. She said: "I would give all the money of Rockefeller and Vanderbilt and the Goulds combined, if I had it, to keep my son from going to the trenches of France." She did not mean that. She could not have meant that, because the American motherhood is that impulse and that spirit which is going to bring victory to the allied armies, and it is through the sacrificing spirit of these mothers, who will take the very offspring which they hold closest and dearest, and offer them willingly upon the altar of sacrifice as Abraham did Isaac of old, and say: "If it takes this to save my country I am willing that the sacrifice should be made."

But I said in my own mind, as I heard this woman make this statement, that, God helping, the citizenship, the civil population of Georgia, would do anything that could be done to make the soldier's life secure and supply his comforts, that we people back here would do anything that we could in order that this boy might be made a better fighting machine, and that is the great part that this cotton oil industry is taking in this great war.

Have you stopped to think of the ramifications of your enterprise? Have you begun to realize fully what a tremendous food product you are producing? Do you really appreciate your importance? Do you know that the outcome of the war is vitally affected by the cotton oil mill business, which is now also using in a way not heretofore known, peanuts, soy beans, and other things from which we extract oils in addition to cotton seed?

We find that the oil mill operator is producing the larger part of the fats which are vital to the life and energies of the fighting forces of America upon the other side. It was said, how true I don't know, that during the time that we had our agreement with the neutral nations of Norway, Denmark, Sweden, Holland and Switzerland, that the cotton seed oil industry of the south actually furnished Germany with that percentage of fats which she needed, which was so vitally necessary to sustain the life of her forces, and as we have found by the reports coming to us subsequent to the time the embargo against the unrestricted shipping of fats took place to these neutral countries, the keeping of this great product of yours from going to Germany has increased the stress on the population of that country, the supply of fats has become more serious. And while we may not be able to defeat Germany's forces by depriving them of food or fats, you certainly can weaken their fighting forces by virtue of the fact that this great product of yours no longer reaches the hands and mouths and stomachs of the enemy.

Now, as to the situation before you. It has been the privilege of some men to do more than other men. That is your privilege. Every day of the season that your mills grind there goes through them the products vitally necessary to maintain the armies of your country, the soldiers of our Allies, and the people generally.

What a splendid responsibility this is that rests upon you. Have you thought about it in that sense? What a splendid opportunity it is to a man to save more oil, to produce more lint, more hulls, more feed, more meal to feed with, more meal to fertilize with, and to realize in your own heart as one who is back behind the fighting line of America that every time you increase your production you are doing that much more service for your country and your army. Is it not a splendid thing to think about?

How long this war will last nobody knows. To pick up this morning's paper and read it makes your heart

sick. It makes every man back here whose heart throbs with the sensibilities of the terrible conflict which now engages America and her Allies, fearful that the enemy might yet overcome the united armies of the Allies.

You see in your mind's eye the terrible devastation which would occur to France, and we will not forget in this time of trial to France what we owe to France because of her connection and her association with this country in the days gone by, when Washington had won his splendid victories in New Jersey and after the brilliant battle of Saratoga had been fought, how he found, when he got down to Yorktown for the final effort which was to liberate his country and give her the freest democracy of the world, there across the neck of the peninsula the Colonial forces under the leadership of the French soldier, LaFayette, who came to this country and said: "I am willing to serve as a private if need be!"

And we shall not forget how Washington found that Rochambeau actually had under his command more French soldiers than he himself had regular army soldiers under his command, and that Admiral de Grasse in command of the French fleet was holding off the English frigates in the roadstead, and that by virtue of this union of forces, of France and America, we were liberated. We might have been liberated later. I cannot say. But we were liberated then because of the participation of France in our behalf.

And when I think about the joining of the American forces to the French forces upon the other side, when French liberty, French honor, French life itself, is in danger, I cannot help but think that gratitude came into the mind of that great commander-in-chief of the French and Allies, General Foch, when he realized that General Pershing was over there with American soldiers, General Pershing, who, on visiting the tomb of LaFayette, bent over and whispered to the senseless clay of America's great friend: "LaFayette, we have come."

And this must have brought courage and reassurance to the hearts of French patriots as they fought for their lives and for their country and for their liberty, brought the same feeling of relief and reassurance which must have come into the minds of the troops of Washington, and Washington himself, when he got to Yorktown and found there the valient armies of France ready to take up the battle of liberty and freedom.

I think what would be the awful effects if this conflict should go against us! The mills of your industry, now turning for your betterment, for the comfort of your homes, for the benefit of your loved ones, would be turning for the purpose of paying the crushing indemnity which Germany would exact of America. And then I know that you who are engaged in these industries are indeed soldiers who are fighting for us, fighting for the man who is on the other side,

fighting for the Allies, in order that this victory might come to us.

For these terrible hours of trial and apparent failure must be turned into victory, which will be the victory of those who are in the lines back behind here, who are in charge of the great vital enterprises as well as that of those boys under arms on the other side, who, as the paper tells us this morning, went to the charge against the enemy with gladness in their eyes and with jokes upon their lips, victorious.

But we cannot gain this victory without the help of you people back here at home. We cannot gain the victory only with the millions which have gone to serve as soldiers upon the other side. The Food Administration comes to the relief of the civil population as well as the military population, and goes to the men who produce the food, and gains their cooperation and their support and their efforts. We find them not only complying with the provisions of the Food Commission's regulations, but giving their thought, time and efforts to the consideration of the production of more of those things which we need so badly.

I don't feel as if there is anything I could say to you along the lines of production which has not already presented itself to your minds. I believe you gentlemen give infinitely more care and study and detailed attention to it than any official of the Food Administration possibly could. But we wish to let you know that this branch of the government service appreciates the effort which you are making, and that when your efforts are crowned with success, you find greater quantities of food supplies actually produced and going out of your mills than ever went before, the United States appreciates the efforts you are making, and looks upon you as patriots necessary to the success of the soldiers, doing your part back behind the lines.

In my home town a boy, the son of a cotton oil mill man, was one of the crew of the United States torpedo boat, the Jacob Jones, sunk by a torpedo as a result of Germany's assassinlike warfare. Only thirty-seven of these men survived.

This young man stuck for eighteen hours on a life boat, up to his waist in the frigid waters of the north Atlantic in December. He had nine companions upon this raft when they first got upon it. They stayed there through the long dreadful hours of the night. They had the melancholy pleasure of seeing a relief ship come within two hundred yards and because of the fact that lights could not be used for fear of submarines, and there was no other way of communication between these men on this raft and this relief ship which was just beyond reach of call, she steamed away and left them to their fate.

One of these young men, a stalwart blacksmith, on this raft said: "If I can only last until they can pick me up I think I will live." But when the ship had

picked up all the men it could find it turned and steamed away and this young blacksmith, with two others, filled with heart breaking despair and because of the terrible exposure which they had suffered, fell over the rail of the raft to their death.

Out of these nine men only four survived. They were partially paralyzed by depth bombs which were on their ship, set for discharge at eighty feet depth.

Finally, when dawn came, some of these boys who were still left upon this raft found themselves growing into unconsciousness, as well as delirious. I asked: "What did they talk about?" I was told: "They talked about home, comforts, loved ones, and things which were near and dear to them in their days of peaceful pursuits." He said: "One young fellow, a small lieutenant, a very delicate man in physical make up, looked out towards the horizon before he died, and said: 'I see the Statue of Liberty', and then he expired and fell over the rail of this raft to his watery grave."

As long as our soldiers and our sailors who are in the uniform of the United States government, bearing arms in defense of the principles which are so dear to all of us, see the emblem of our independence, the Statue of Liberty as the last rays of the light of life fades from their eyes while they are valiantly doing their duty in the defense of their country, there can be no such thing as defeat to come to a country like that, so long as those who are back behind the lines are doing their duty to support such a splendid class of fighting men.

CALIFORNIA MAY HAVE ANOTHER MILL.

It is reported that there may be built at Blythe, Calif., a co-operative cotton seed oil mill. Blythe is located in the Palo Verde Valley and would be in a central location for the cotton grown in that section.

LINTER ROOM EFFICIENCY.

The following article is from the Fort Worth Laboratories, Fort Worth, Tex.:

"The government states that you must cut at least 145 pounds of linters per ton of seed. The government wants all the linters you can produce.

"While a production of 145 pounds, of linters will comply with government regulations, it will not show how efficient your linter room is being operated. Press room efficiency is measured by the amount of oil left in the cake, not by the amount of oil produced. In the same manner, linter room efficiency should be measured by the lint left on the hulls, not by the lint produced. The amount of lint on samples of hulls we have analyzed varies from 14 per cent to 30 per cent and this at a time when the mills were endeavoring to produce a high cut of linters, with linters at 7 cents. One mill by having their hulls analyzed regularly for lint were able to

reduce the percent of lint in their hulls from 28 per cent to 14 per cent without adding any linter machinery.

"The present method of considering only the linters cut and not the linters that go with the hulls does not allow you to keep in close touch with linter room efficiency.

"When the efficiency of the linter room decreases the per cent of lint left on the hulls increases, irrespective of the amount of lint on the seed to start.

"Why not know from analysis of the seed for lint and of the hulls for lint whether you can not easily go above the 145 pounds and by so doing add to the government supply of ammunition material?"

JAPAN'S OUTPUT OF VEGETABLE OILS.

Owing to the tremendous increase in demand for vegetable oils in the United States during the past two years, the soya-bean and coconut-oil mills in and about Kobe have enjoyed remarkable prosperity. At present there is an output, in all Japan, of 223,500 cases (7,550 long tons) of oil per month, divided about as follows: Soya-bean oil, 92,500 cases; coconut, 68,000; rapeseed, 44,000; cottonseed, 16,000; peanut, 3,000.

There are 25 large vegetable-oil mills in this consular district, producing approximately 75 per cent of the vegetable oil manufactured in Japan. All except three, I believe, use the pressure system of oil expressing, the other three use the benzine extraction process. Three types of pressure mills are generally used: (1) The round type, with a bed about 18 inches in diameter, used for crushing beans and rapeseed; (2) the oblong flat-bed type, about 30 by 14 inches, used for pressing copra, and (3) the bowl type, in which a stone bowl is pressed into a mass of seed pulp held by iron hoops, used in second and third pressings of peanuts and beans. One mill in Japan—the Kashiwara Oil Mill—is using the latest type of American rotary screw oil expresser. When filtering is necessary the usual clay filters are used.

Several of the local mills are now expanding their works in order to increase the capacities or to adopt the mills to other seeds. One new mill, with a capacity of about 20,000 cases monthly, is being erected near here. The machinery being installed is usually either American or Japanese adaptations of American cottonseed-oil machinery.

CASTOR BEAN ACREAGE.

It has been officially announced that more than 108,000 acres of castor beans are being grown under contract with the government, to be crushed to make castor oil as a lubricant for airship engines. The government needs all of the castor oil that can be produced from this acreage, and even more, for its aviation program.

COPRA CRUSHING.

For many years mills in this country have been engaged in the manufacture of cocoanut oil from the waste and spoiled nuts shipped here for confectioners use. The shortage of vegetable fats at this time and the inability of the cocoanut producing countries to manufacture the oil has led to the importation of considerable quantities of copra during the last year or two. The following news regarding a new copra mill now being built appeared in the Oil, Paint and Drug Reporter recently.

Government officials are interest in the most up-to-date copra crushing plant in the entire world, which has just started operations near Baltimore, and a number of Federal experts are to make a tour of inspection of the plant next week.

It is the belief of government officials in the United States Department of Agriculture, in the United States Food Administration, the War Industries Board and other branches of the Federal and War Work Service that the copra and cocoanut oil industry will be a permanent one in this country after the war.

Considerable concern has been expressed by some interests in the south that the establishment of copra crushing plants will be a menace to the cottonseed industry. Federal authorities do not agree with this view. There will be no serious competition with cottonseed, they say. Efforts have been made to induce the War Trade Board to place an embargo against copra and cocoanut oil, but this the War Trade Board declines to do.

The United States Food Administration is particularly interested in copra and cocoanut oil on account of its high glycerine content.

Here is encouragement for the cottonseed interests of the South and those interested in all vegetable oils:—The United States Food Administration is very desirous of putting this country in a position to take care of a great deal of the fats and oils business that heretofore rested in Germany. The cottonseed industry in particular will be benefited by the program and policy of the Food Administration in this regard.

SOME PEANUTS.

More than 2,000,000 acres of land were planted to peanuts in 1917, according to figures obtained by the Bureau of Crop Estimates, United Department of Agriculture. The rapid growth of the peanut industry during recent years is regarded as one of the striking developments of the agriculture of the South.—Exchange.

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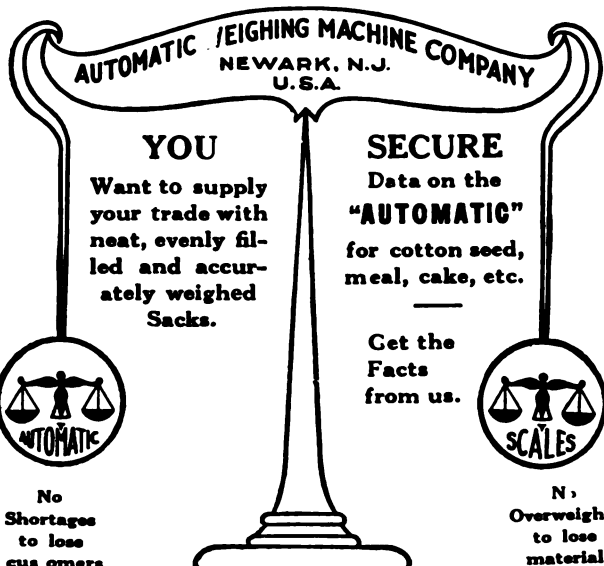
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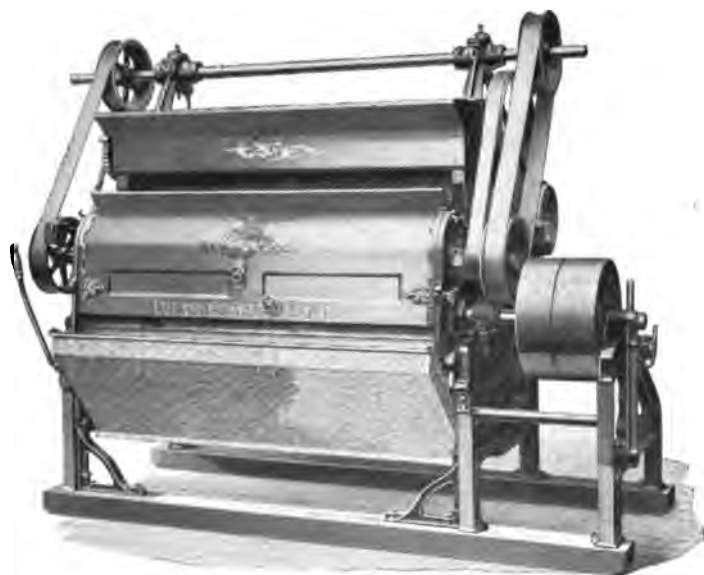
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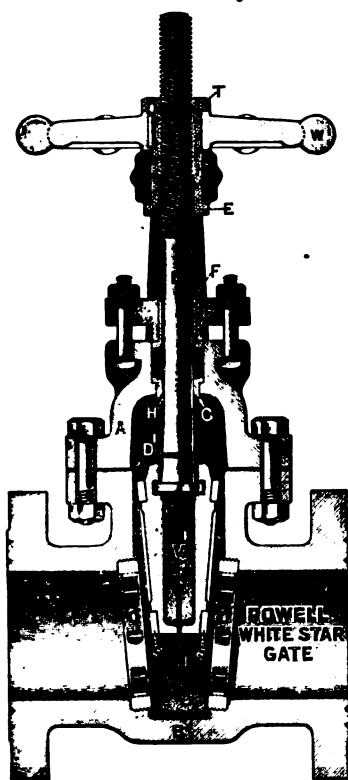
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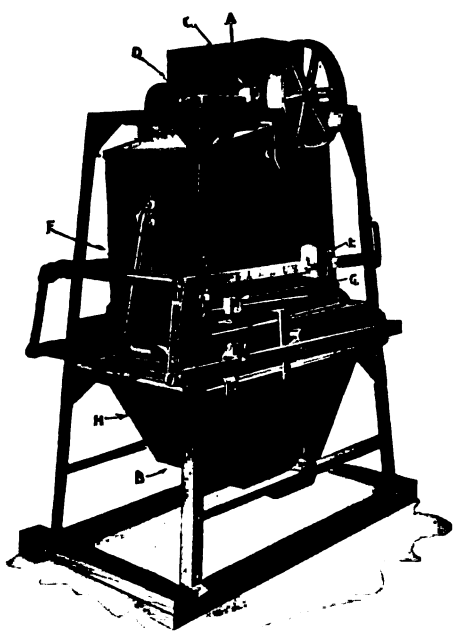
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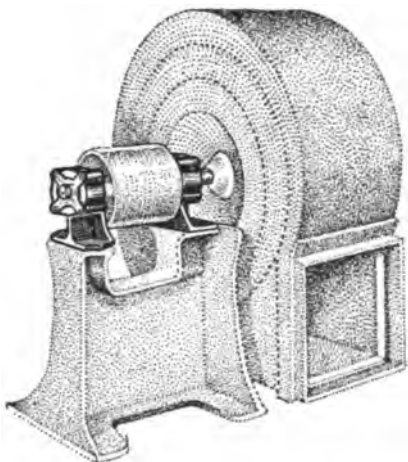
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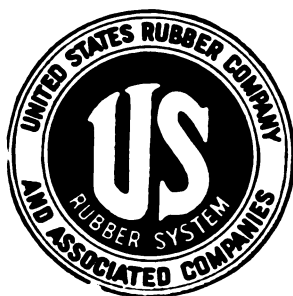
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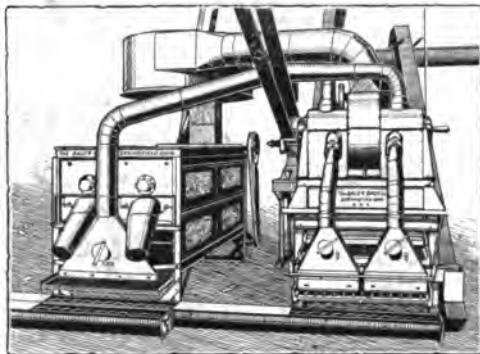
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Vol. IX. No. 2.
Monthly.

Atlanta, Ga., October, 1918.

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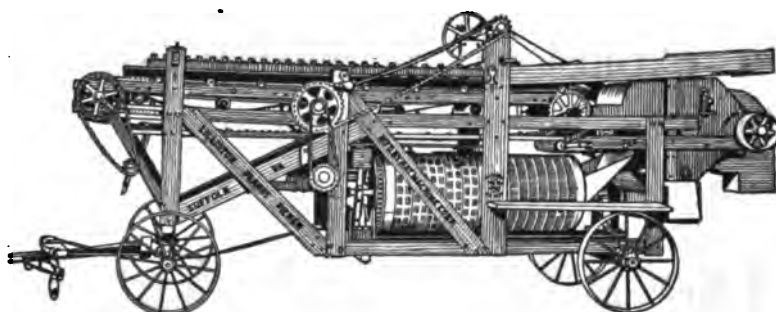
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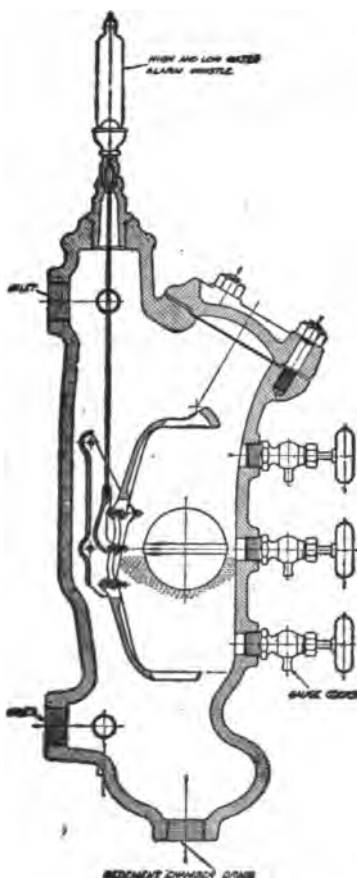
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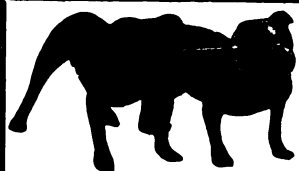
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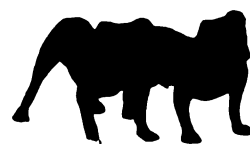
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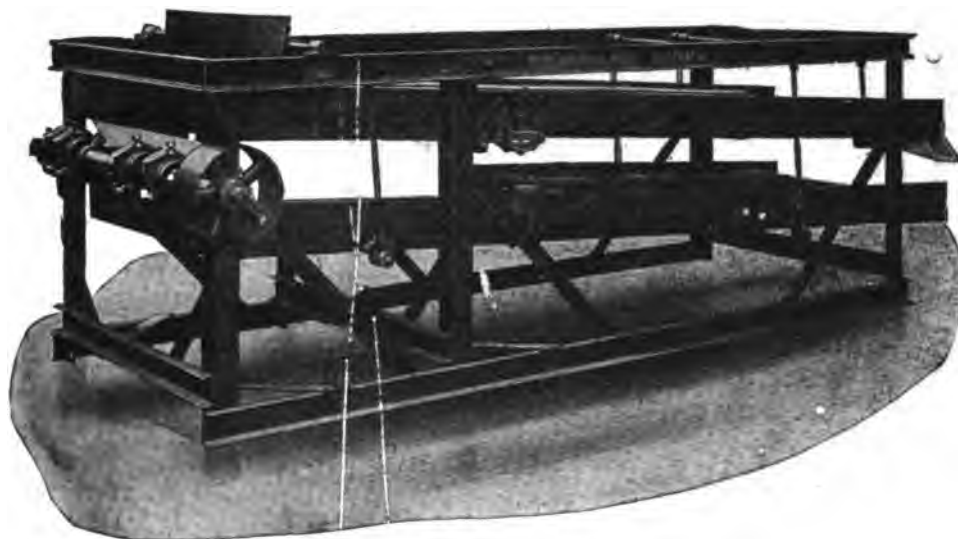


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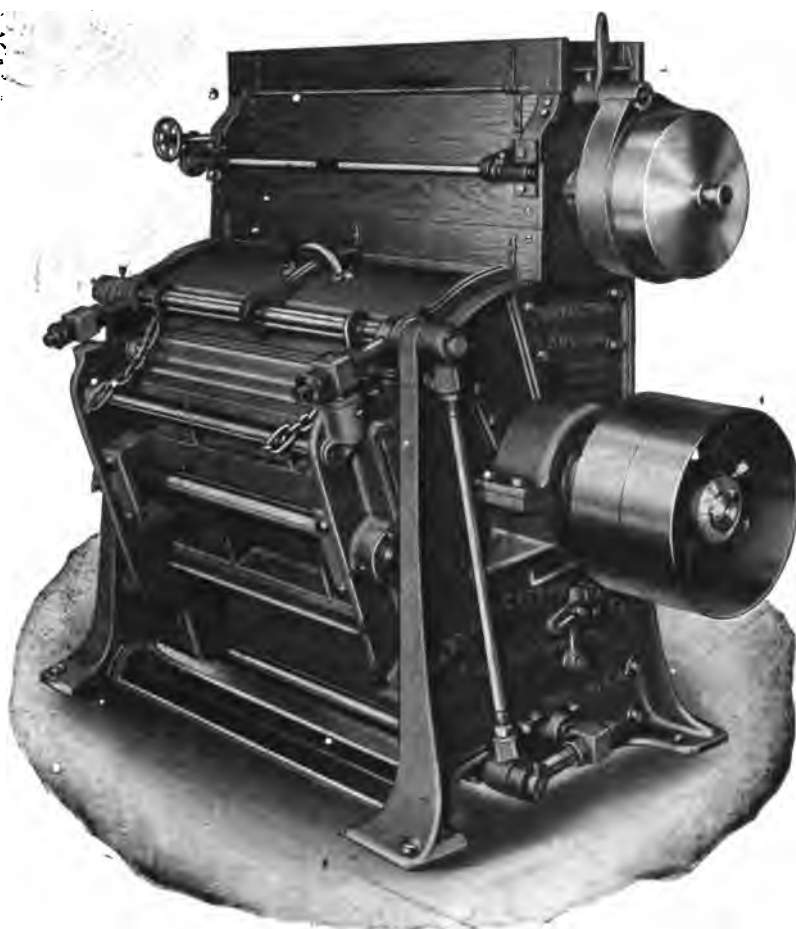
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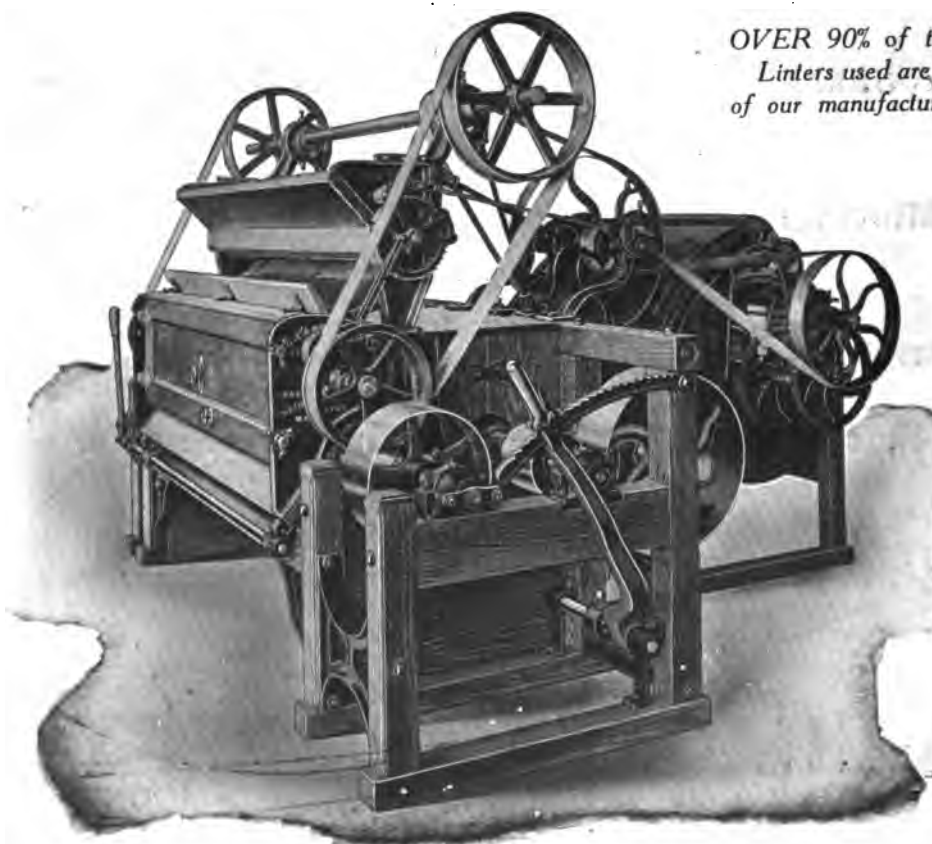
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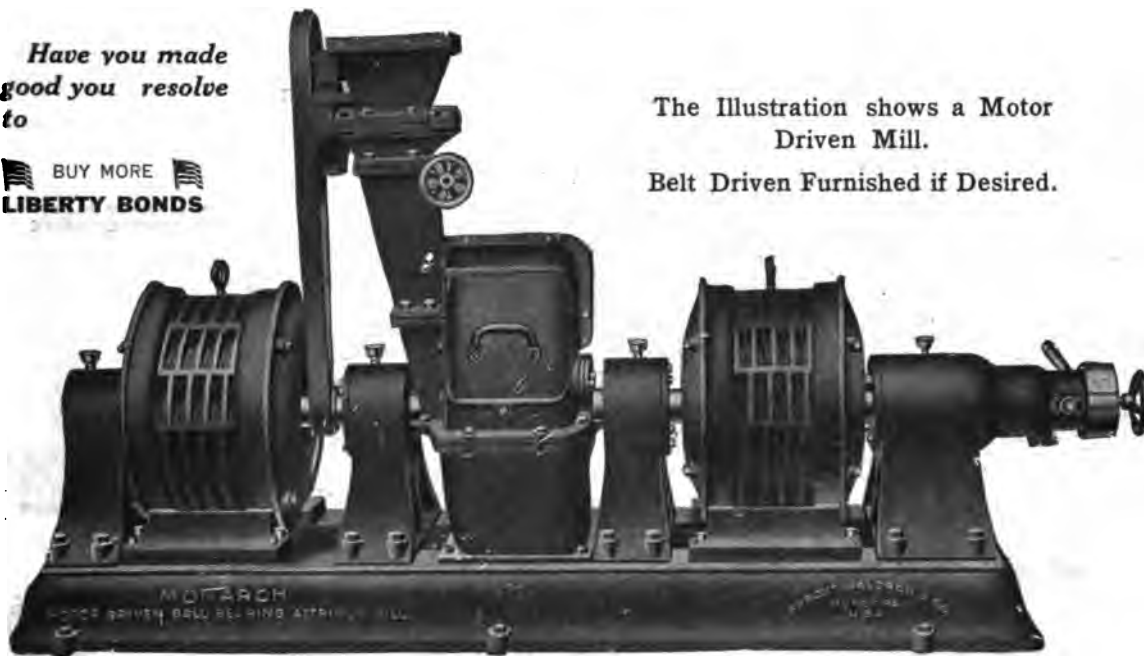
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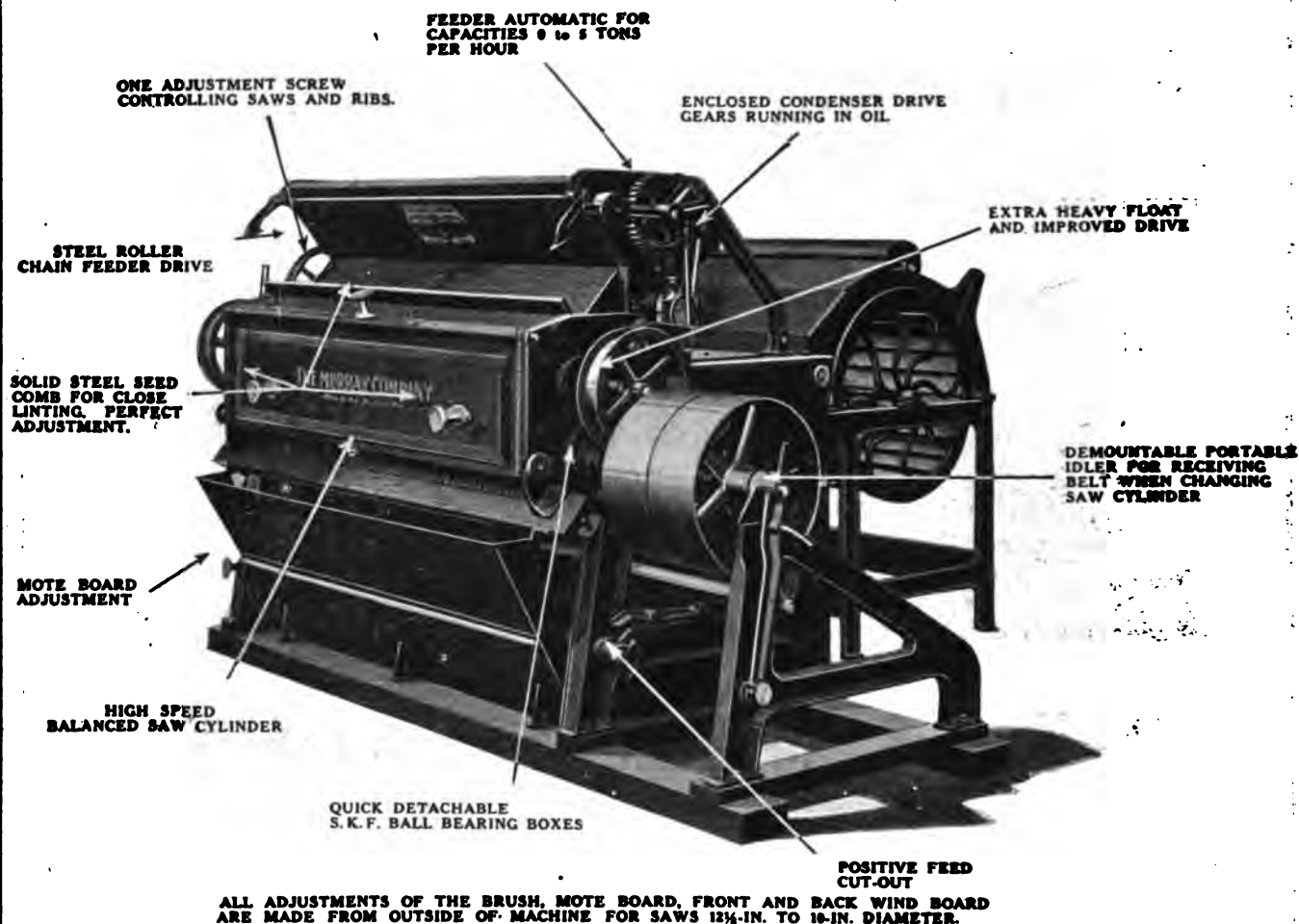
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THE OIL MILLER

Vol. 9.

Atlanta, Ga., October 15, 1918.

No. 2

THE OIL MILLER

OIL MILLER PUBLISHING CO.

MARY R. BURRUSS, Editor.

Atlanta, Ga.

Subscription Price: \$1.00 per Year.
Three Years for \$2.00

Address all communications to The Oil Miller,
Empire Bldg., Atlanta, Ga.

Advertising Rates Furnished Upon Application.

Entered as second-class matter March 4th, 1913, at post
office at Atlanta, Ga., under act of March 3rd, 1879.

Official Organ Alabama Cotton Seed Crushers Assn.
Official Organ Arkansas Cotton Seed Crushers Association.
Official Organ Inter-State Oil Mill Superintendents Assn.
Official Organ North Carolina Cotton Seed Crushers Assn.
Official Organ Cotton Seed Crushers Assn. of Georgia.
Official Organ Mississippi Cottonseed Crushers Assn.
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COTTONSEED OIL CAKES AS FUEL IN EGYPT.

The day when the oil mills burned hulls for fuel and the fireman who could feed in the biggest pile during a day was the best man in the boiler room is not so far in the past as to be forgotten.

Some of us who were smitten by the spirit of adventure and lured on by the tales of Kansas and her wonderful productiveness went there and made our home for a time can remember that the north winds were very bitter and fuel was very scarce. Some of us tried to burn sun flower stalks but the supply was not absolutely unlimited. Others found that the cheapest fuel was the golden corn we had struggled through the summer days to produce. Those ears of corn were of more value as fuel than as food and feed.

In these days of \$20.00 hulls and \$2.00 corn it seems strange that there is any place on the face of the earth where a food product is being used as

fuel. Yet we have on the authority of The Scientific American the story that the high price of coal and the shortage of ocean freight space have produced a condition in Egypt under which cottonseed oil cake is being used as a substitute for coal as fuel. The crushing industry in Egypt produces a maximum of about 85,000 tons of cottonseed oil cake annually for which there is no local consumption. As the result of a lack of shipping facilities, large stocks of cake accumulated in Egypt. The high price of coal coupled with a desire for economy in its uses induced experiments with local products as a substitute. The relation of the calorific value of cake to coal was found to be $1\frac{3}{4}$ tons of cake to one ton of north country large coal.

The present price of coal in Egypt is about \$80 per ton. The price of oil cake has been fixed by the government at various times during the past two years at a figure ranging between \$32.50 per ton and the present price of \$15. Cake is now being largely used in place of coal in boiler plants, in hotels, restaurants, and private houses. Boilers and stoves, it appears, are not detrimentally affected through the burning of the cake. One large concern saves two men per boiler in burning cake instead of coal. Cake ash has a value as fertilizer of about \$25 per ton.

When cotton seed hulls were burned the ashes were salvaged for their potash. But no concern would buy them unless they were first sifted. The hulls formed big clinkers which the potash buyers refused to buy, bidding only on clean, fine sifted ash. One day someone was moved by curiosity and determined to find out of what the objectionable clinker was composed. Remember the day of the commercial chemist has not yet dawned. An analysis showed that the clinker was almost pure potash, worth many times the value of the sifted ash. So one more step was taken to make every end of the oil mill business pay.

A SUGGESTION ON THE LABOR QUESTION.

It may be a matter of news to some of the oil mill men to know that a good big proportion of the machinery and supplies now being delivered to them is made in whole or part by women. The daily press has made feature stories of the women workers in munitions plants but has passed by the greater number of workers in the local manufacturing plants

of their community, not realizing that there was many a good story there.

The writer recently saw in the shop of one of the oil mill supply manufacturers a woman worker making elevator buckets. That she was a "worker" was evident in her quiet and efficient attention to her machine and by the increasing pile of finished buckets at her side. That she was undoubtedly a "woman" was told when we noticed that with her practical suit of unionalls she wore a string of gold beads around her neck. The foreman of the shop stated that the output of this particular machine had been decidedly increased since his women workers did not loaf on the job as much as the men and boys.

This little story is told only to lead up to the question—Could not the oil mills use women in some of their work? The idea is not entirely new for twenty-five years ago one of the large mills at Shreveport kept a force of six or eight negro women sorting and mending sacks. It may be that some of the mills are using women workers, if so the Oil Miller would be glad to hear of the success of the plan. There would not seem to be any reason why women could not act as sweepers or sack sewers or why they could not feed seed, a job which is hard to fill and yet which is really light work.

There is always the question in the mind of those who have not yet used women as to how the men would take the innovation, but experience has proved that the men do not resent it and really take a pride in the fact that their shop or mill is using women at this time. It may be that a number of the first women employed will not adapt themselves to the mill routine but with labor as scarce as it is in some localities it would pay to try out the plan for it has worked in other industries.

WALTER M. McDONALD DIES SERVING HIS COUNTRY.

Walter M. McDonald, vice president and general manager of the Fulton Supply Company of Atlanta, Ga., died October 9th at the local hospital in Dothan, Ala., of bronchial pneumonia.

Mr. McDonald left Atlanta in charge of one of the relic trains, which are out in the interest of the fourth Liberty Loan. He was in charge of one of the trains in the third loan and did such excellent work that he was asked to take charge of the same work this time, which he gladly volunteered to do. He contracted cold while on the tour and when the train reached Dothan on October 1 he was too ill to continue the work and went to the hospital immediately. For several days he was thought to be recovering, but suddenly he suffered a relapse and the end came quickly. His wife was with him at the time of his death.

Mr. McDonald was well known to the oil mill trade and was one of the most popular men in the

supply business. He held the position of Vice President of the Oil Mill Superintendents' Exhibitors Association for several years and was personally known and loved by scores of men throughout the southeast.

Mr. McDonald's death occurred in line of duty and was for the same cause and as glorious as that of a soldier upon the battle field. This paper can speak for his friends in extending their sympathies to the bereaved family and business associates of Mr. McDonald.

THE BURDEN MUST BE BORNE BY THE SUPERINTENDENT.

The fact has always been admitted that the position of superintendent in the oil mill carries with it a heavy responsibility. The present abnormal state of business and things in general only makes the fact more self evident. Speaking along this line Mr. Thos. C. Law recently said, "The government in fixing prices for products has very nearly eliminated competition in trade, and very nearly eliminated the use of a sales department at all. A man cannot get any better price at one place than he can at any other place, and cannot, by trading, get a better price than his competitor.

"That means that the responsibility of oil milling is now entirely on the superintendents. It is up to him to show the results. In fact, there is no place that he can beat his competitor except within the walls of his own mill. It will require closer attention on his part than ever before, and greater responsibility.

"Not only is it your duty to your company, and because of the economic phase of the question, but from a patriotic standpoint of food conservation, and it is not confined only to the products, because you have the control of the machinery line and it looks now as if the superintendent is about all there is to an oil mill, and by all odds the biggest man connected with it. I think the superintendent should keep that in mind and realize and recognize his responsibility."

ANNOUNCEMENT.

Mr. George E. Stephens who has been connected with the Oil Miller for the last few months resigned the first of September to enter army Y. M. C. A. work. He is at present located at Louisville, Ky., where he is doing publicity work for the fall financial drive in that state.

It will be recalled that Mr. Stephens was also secretary of the Oil Mill Superintendents' Exhibitors Association. On his resignation of this office the president, Mr. W. H. Camp, appointed Mr. S. A. Pardee of Atlanta to fill the vacancy.

STALE ADVICE NEEDED NOW AS ALWAYS.

One of the boys at Camp Gordon wrote his mother, "This is the darnedest cleanest army ever was—why they wont even let a fellow throw down a burned match." Perhaps this boy did not realize that if each of the 50,000 men in the camp threw down his burned match every time he lit a fag there would have to be a special round up to get men enough in the guard house to be detailed as street sweepers.

It would be as the shadow of a great rock in a weary land to find a mill that not only would let a burned match be thrown down but would also forbid the striking of a match on the place, this rule to apply to all from the biggest stock holder to the yard man. The oil mill has always been considered a bad insurance risk. They have paid a high rate for their insurance and "contributory negligence" has been offered as a reason for not paying the full value of a policy after many a fire.

Now plain every day horse sense offers just as good reasons for keep your mill cleaned up as it ever did. The mills have been urged to employ this same horse sense year after year and some have done it, but there are still some who cannot see the use and this season because of the high price of labor will be more than ever apt to let the dirt and trash accumulate. To them we offer one more reason for extra care in preventing fire risks. You are patting yourselves on the back because you are among the "essential industries." Have you any right to risk the loss of your plant when you are essential to the welfare of your country? The government has put a stop to the building of new plants; can you afford to endanger a factory owned by yourself and others which cannot be replaced. The community in which you do business is counting on your mill to give a market for its seed, you must not fail your neighbors. In fact every old threadbare reason and a host of new ones make it more necessary that you sweep down the cobwebs, sweep up the trash, fill the water barrels and run out the smoker, (even if that fellow is yourself) and fight old man Fearful Conflagration as though he were the wolf at the door waiting to devour your babies.

IMPORTANT NOTICE TO ALL MILLS.

The chairman of the Traffic Committee of the Cotton Seed Crushers has issued the following bulletin under date of September 26th which is of keen interest to all oil mill operators:

TO ALL MEMBERS COTTON SEED CRUSHERS' ASSOCIATION OF GEORGIA:

This is to advise that the United States Railroad Administration, through its Southern Freight traf-

fic committee, has now approved of the application of Cotton Seed Meal rates on shipments of "Cotton Seed Meal and Ground Cotton Seed Hulls mixed."

This being the mixture commonly known as cotton seed feed meal which under ruling of the Southern Classification Committee, as well as the carriers themselves, has been subjected to class D rates, same as other feeds.

This matter has been a subject of correspondence, conferences etc., with our railroad friends for more than a year now and I am pleased to report this very satisfactory result.

The individual railroads under Federal control, as well as the Southern Classification Committee, were instructed on the 19th instant to make the necessary tariff and classification amendments effective on one day's notice but railroads not under Federal control will have to observe statutory notice in putting this change, or reduction, into effect.

In order to secure protection of cotton seed meal rates on your cotton seed feed meal shipments, however, it will be necessary, absolutely, for you to print across the top of your feed tags (on the analysis side) or stamp across the face of same, in extra large letters, the following key description:

"COTTON SEED MEAL AND HULLS MIXED," and in making out Bill of Lading it should be described therein as "Cotton seed meal and ground cotton seed hulls mixed."

These were the two prime conditions upon which the United States Railroad Administration consented to transport said feed meal shipments on basis of Cotton seed meal rates and I trust every one interested will be governed accordingly so as to insure protection of Cotton seed meal rates.

Yours very truly,

S. LINTHICUM, Chairman,
TRAFFIC COMMITTEE.

ST. LOUIS FIRM HAS SMALL FIRE.

The daily papers reported that The Williams Patent Crusher and Pulverizer Co., of St. Louis, had suffered considerable damage by a fire in their plant Sept. 19th. This report was greatly exaggerated as a matter of fact the fire was a very small blaze. A letter to The Oil Miller from the Williams Company states that "Our fire was confined to a small tool room and we did not sustain any damage nor are we crippled in any way. Running along with plenty of orders and turning out machines rapidly which are being shipped into the south for the saving of feed."

The many users of Williams mills will be glad to know that there was no great loss suffered by this company and that as is frequently the case the reporter made a great fire out of a little smoke.

TEXAS AND THE SOUTHWEST

SPECIAL CORRESPONDENCE

OKLAHOMA AND TEXAS MILLS BUSY.

With the exception of a few mills in West Texas, nearly every cotton oil mill in Texas and Oklahoma is now in operation. Some of the mills in Oklahoma suspended operations, or did not begin to run, pending an adjustment of the rulings of the Federal Food Administration. The differences, however, were settled to the satisfaction of the operators. One mill in Oklahoma, that of the Liberty Cotton Seed Oil Company, at Oklahoma City, is furnishing the Government with bleached linters for making gun cotton and high explosives. In this plant forty bales of raw linters are consumed daily, and a chemical plant in connection makes the company independent of the chlorine supply.

PUBLIC IS WARNED AGAINST COTTON SEED FAKERS.

The campaign of the extension service of the A. & M. College and the Bureau of Markets of the United States Department of Agriculture to encourage the growing of better staple cotton in Texas is bearing fruit in the form of unprecedented demand for pure seed of the better varieties of cotton, according to Wallace Peteet, of Dallas, who with A. D. Hudson, is in charge of the cotton classing and marketing work of the State.

"In all the counties in which we have classing and market offices," says Mr. Peteet, "we have been able to assist farmers in selling cotton of 11-16 and 1 1-8 inch staple for substantial premiums over the price paid for short cotton, and the result has been a great demand for seed of varieties that will produce these lengths of staple.

"If the farmers who do not know the staple of the cotton they are now growing will send samples to our office, 1308 Southwestern Life Building, Dallas, we will promptly advise them of the grade and staple. We very strongly advise the planting of varieties that will produce a staple of 11-16 to 1 1-8 inches, as such lengths are in demand by spinners and command very attractive premiums over the price of shorter staples. We do not advise the growing of long staple cotton except in certain restricted regions of the State.

"It is timely to caution farmers against buying cotton seed from persons and firms unknown to them without careful inquiry concerning the source of their seed supply. Thousands of bushels of mixed and inferior cotton seed are sold to Texas farmers every year at high prices, and in some instances large quantities of oil mill seed have been sold as pedigree planting seed of popular varieties.

"I strongly advise all farmers who want to in-

crease their profits on cotton growing to find out what the staple is of cotton they are now growing by sending samples to our office, and if the staple is short, to sell their seed and by planting seed of a variety that will produce a staple which sells for a higher price, but to be extremely careful in buying planting seed and deal only with persons and firms of unquestioned integrity, for the seed fakir is at large in Texas and many of them will endeavor to capitalize the demand for seed of good staple varieties of cotton to their own selfish advantage."

DALLAS CHAMBER OF COMMERCE JOINS WAR AGAINST COTTON SEED FAKERS.

The improvement committee of the Agricultural Advisory Board of the Dallas Chamber of Commerce has joined the campaign for the suppression of sellers of inferior varieties of cotton seed. In this connection two cards have been printed, and the inspector's report is outlined on one of these cards. Blank spaces are left opposite the name and address of the seed grower, the number of acres of the cotton he raised and the amount of seed he will have for sale. There is also space for the number of plants found true to type in four counts in the field; the average count is to be given; the statement as to whether the grower has a breeding plant, the number of acres in same, and statements as to whether the grower exercises the proper care in keeping his seed pure.

On the other card is space for the signing of affidavits from the grower that the seed is pure and is the progeny of seed secured through the United States Department of Agriculture; from the ginner that the seed left his hands pure and unmixed, and from the county agent to the effect that the field from which the seed was secured was inspected by representatives from his office and found to be pure in accordance with laws covering the sale of seed.

It is confidently expected that this campaign, which is to be permanent, will result in standardizing the cotton seed of Texas and improving the quality and yield of cotton in that section.

EMBARGO ON ORIENTAL PEANUTS.

The embargo placed by the Federal Government on peanuts imported from Japan, China and other Asiatic countries has resulted in the forbidding of the planting of peanuts, by decree of the Japanese Government, on millions of acres in that country. This means that the great California peanut trade, which heretofore has been dependent upon the Oriental product, will this year look to the South as

the nearest base of supply. With the general shortage of the peanut crop, particularly in Florida, Arkansas and Oklahoma, and this western demand, the price is likely to be high. Had there been no drought this year it is possible that the yield would have been a record breaker. With an approximate yield of from 30,000,000 to 35,000,000 bushels this year it is estimated that the crop will be worth in the neighborhood of \$50,000,000. It must also be remembered that all peanuts do not go to the mills to be made into peanuts oil, butter and feed. A great deal of the crop will be fed on farms.

TEXAS COTTON PICKING NEARLY FINISHED.

According to Walton Peteet, assisting in cotton marketing for the Agricultural and Mechanical College extension service, three-fourths of the cotton south of Dallas, to the Gulf of Mexico, has been picked, and northeast of Dallas about one-half of the crop has been harvested. In Dallas county it is estimated that there are about 200,000 acres in the crop this year and that the yield averages one-fourth bale to the acre, making 50,000 bales for the county. In 1917 the average yield was about one-third of a bale per acre, but there were about 20,000 more acres planted than this year. This means that the monetary return will be greater this year than last. Throughout the State farmers are accepting only top prices for their cotton, many of them holding on.

THE TEXAS COTTON SEED ZONES.

By order of the Cotton Seed Division of the Federal Food Administration Texas has been divided into five zones, as follows:

Zone 1. All counties east of Fannin, Hunt, Rains, Van Zandt, Henderson, Anderson, Houston, Trinity, Polk, Liberty and Chambers counties.

Zone 2. All counties south of Liberty, Montgomery, Grimes and Washington counties and east of Fayette, Lavaca, Jackson and Calhoun counties.

Zone 3. Bounded on the east by Zone 1, on the south by Zone 2, on the west by the eastern line of Fayette, Lee, Williamson, Burnett, Lampasas, Mills and Comanche counties; and bounded on the north by the southern lines of Erath, Somerville, Johnson, Ellis and Henderson counties.

Zone 4. Bounded on the east by Zone 1, on the south by Zone 3, and on the east by the eastern lines of Comanche, Eastland, Stephens, Throckmorton, Knox, Motley, Briscoe and Armstrong counties.

Zone 5. Includes all counties west of zones 4, 3 and 2.

Basic yields effective August 1st: Yield of 540 pounds hulls and 145 pounds lint for all zones.

Oil yields, 39 gallons for zone 1; 38 gallons for

zone 2; 37 gallons for zone 3, 38 gallons for zone 4; 35 gallons for zone 5.

Cake yields, 920 pounds for zone 1; 930 pounds for zone 2, 940 pounds for zone 3; 930 pounds for zone 4; 960 pounds for zone 5.

The point of origin determines zone.

Since this ruling became effective on August 20 there has been little, if any effort to evade its intent. In a few instances, where oil mills are situated close to the zone boundaries, there has been some jockeying, and in Taylor county there is a mill the crusher of which is in one zone and the seed house in another.

A close canvass of the cotton seed oil mill men of Texas has revealed that the great majority of them are working in accord with the Government's ruling, and most of the operators agree that the rulings are fair and just.

CONDITION OF TEXAS PEANUTS.

Crop experts who have visited the Texas peanut areas report that half as large a crop as last year is the best that can be counted on this season because of drought. Local showers throughout the panhandle and in the Cross-Timber regions recently have aided the crop. North of Fort Worth and Dallas conditions are better. East Texas which ought to be one of the leading peanut-producing regions of the United States, has failed to plant a large area. Southern and Southeast Texas, from a line drawn eastward twenty-five miles below San Antonio and not extending westward, has a good peanut crop.

Farmers are very much interested in the fact that where the Spanish peanut has been planted in sandy lands this year, with cotton alongside, the peanuts have managed to withstand drought and make at least part of a commercial crop whereas cotton in most instances is not worth picking. The peanut has had a chance to show its drought-resisting quality this year above every other, and has done well.

FOR BETTER COTTON MARKETING SYSTEM.

The A. & M. College, Texas, and the United States Bureau of Markets are endeavoring to establish a better system of marketing cotton in Texas, a system under which cotton will be sold on staple as well as grade. To demonstrate the value of good staple cotton over short staple varieties farmers are being asked to pool their holdings in lots of twenty-five or more bales, and send samples to the Dallas office. Farmers are being advised that pooled cotton should be stored in a yard, warehouse or compress, and when more than one person is interested, the lot should be placed in charge of one responsible man to act as sales agent. Samples should be drawn from both sides of the bale and be identified by yard or warehouse numbers.

THE GREAT AWAKENING OF THE SOUTH.

"Almost unbelievable" is the phrase used in describing the agricultural and industrial progress of the South, in the report of the standing committee of the United States Chamber of Commerce, of which Archer Wall Douglas of St. Louis is chairman. This committee has been engaged in making a comprehensive survey of the general resources of the United States, and in its report lays special emphasis on the changed conditions in the South.

The report goes on to say that if some crops, such as sugar and rice, are not as large as in past years the high prices of these products more than make up the difference to the producers. Diversification is rapidly becoming popular, and even the humble peanut is now raised from Virginia and along the Atlantic Coast into Georgia and across to Oklahoma and Texas, to the value of many millions of dollars. A few years ago the raising of peanuts was scarcely known, and the extraction of peanut oil and the making of peanut butter an unthought-of industry.

The report concludes with the prediction that historians will turn aside from their chapters on The Great War to set forth the industrial and agricultural awakening of the new South.

TEXAS COTTON YIELD.

While the yield of cotton in Northeast and East Texas and parts of Oklahoma has been fair, other sections have not come anywhere near their average production. This is particularly true in the drought districts in West Texas, where thousands of farmers have abandoned their farms and moved elsewhere. In the whole of Erath County, for instance, it is doubtful if 2,000 bales of cotton will be gathered. In the vicinity of Temple, Waco, and in the country toward San Antonio the cotton yield is poor.

BUILDING SEED CRUSHERS IN THE ORIENT.

One of the most interesting and progressive cotton seed oil men of Texas, Mr. Clarence Martin, Vice President and General Manager of the International Vegetable Oil Company of Dallas and Houston, recently left for the Phillipine Islands to superintend the building of a modern oil mill at Manilla. It is also planned to build a similar mill in China. The methods of extracting vegetable oil in the oriental countries is very crude, and it is expected that the completion of the two mills mentioned will be but the beginning of the erection of numerous others.

In this connection it is interesting to note that the International Vegetable Oil Mill at Dallas, and the mill at Houston owned by the same company, as well as the Magnolia Cotton Oil Company have been operating steadily since last year, crushing

peanuts and copra in addition to cotton seed. The copra is, of course, imported. This important branch of the oil mill industry will, in all likelihood, be developed to a much greater extent after the war. Our merchant ships, of which we will have a large number, will undoubtedly bring copra in large quantities to our shores, and many oil mills which now remain idle for several months each year will be able to run full time.

Cocoanut oil and butter, as well as peanut butter are gaining in popularity every day. These products contain rich nutrients, and even today, with the price of creamery butter constantly going higher, the demand for peanut and cocoanut butter is constantly growing. The Planters Cotton Oil Company of Dallas crushed quantities of copra during the year just passed, and other mills are considering similar operation.

HIGH PRICES (?) FOR COTTON.

The cost of producing cotton varies so much in different sections, or even in the same section, that it is improbable that any definite figures will ever be attained. Every cotton farmer knows that the cost of producing cotton is fully 100 per cent, greater than it was before the war, and the talk about cotton growers getting rich should be discontinued.

According to E. A. Calvin, Washington Representative of the Cotton States Official Advisory Marketing Board there are 2,000,000 families engaged in cotton production in the South. The 1917 crop was a little less than 12,000,000 bales, or about six bales to the family. The average price received by farmers was 27.6 cents per pound, \$138 per bale, or \$828 for a crop of six bales. Cotton, as every one knows, is an all-the-year-round crop, so that each family received \$69 per month, gross. Sixty-two per cent. of the cotton producers are tenants and pay at least one-fourth of the crop for the use of the land, which cuts this \$69 per month much lower, to approximately \$51 per month.

These facts—and they are facts—would tend to demonstrate that the cotton growers of the South are far from being profiteers, rather, as a matter of fact, that they are barely making a living.

TEXAS GOVERNOR ASKS FOR THIRTY-FIVE CENT COTTON.

Governor Hobby, of Texas, appeared before the committee on cotton inquiry at Washington on October 1, and stated that if, as a war measure, price fixing on cotton becomes necessary, that the price should be at least 35 cents a pound. Any price less than that, he told the committee, would be a hardship on cotton growers, owing to the increased cost of production and the general economic condition in the South.

FIRE PREVENTION IN THE OIL MILL.

Editor's Note:—The following address on Fire Prevention in the Oil Mill was delivered by Mr. H. C. Harrington of the Rome Oil & Fertilizer Co., Rome, Ga., before the Inter-State Oil Mill Superintendents Association in convention at Atlanta last spring.

Those who have been long in the business have doubtless learned many lessons, looking to the care of their plants, from the frequent visits of Inspectors and General Agents of the Underwriters, and the knowledge thus gained has been no small aid in safeguarding the properties trusted to their care.

We have been taught by them the necessity of "preparedness." They have pointed out in detail the special fire hazards existing in our mills, and have suggested how best to secure or eliminate them, and have further shown us that when all these preventative measures have come to naught, we are to always have our fighting forces and equipment ready at any moment to put up a winning fight against loss by fire.

Just now more than any previous time in the history of our industry, should we give the matter of Fire Prevention close study. The products of our plants are needed as never before, both for food and munitions purposes, and at the same time the fire hazard has increased both a moral and physical view point. Moral by reason of a greatly changed labor problem, forcing the employment of a more irresponsible class of operatives. Also the menace of enemy effort to cripple an industry which is in any way contributory to our American fighting machine. Physical, because of more intensive milling. Higher speeds, and the consequent great friction hazard in delinting. Increase in deposit of fiber and lint throughout Linter and Separating Departments.

High tension electric conductors on yard and in buildings, with the multiple motor drive replacing the single unit steam drive of past years. Accumulation of the more inflammable products in our warehouses and on our yards due to congested freight conditions and embargoes.

The changed conditions, above mentioned, it would seem are individual problems to be worked out in accordance with the circumstances existing at our several plants, and cannot be treated in a general way. They should be carefully studied, a correct diagnosis made, and the proper remedy applied.

On this subject I feel it would be waste of my time, and a test of your patience, should I attempt in detail a description of Oil Mill fires, their possible origin and means of prevention, fire fighting equipment, its care, distribution, etc., and it is assumed

that not one of us but realizes the danger to our plants when general conditions are untidy, water barrels empty, buckets missing, sprinkler valves closed, extinguisher charges dead, and numerous things of like nature.

Such conditions are not tolerated by any of us, when we know them to exist, and it is to keep in closer daily touch with our fire risk that I would like to impress you.

When such delinquencies are found they are always traceable to a human agency in the form of an unthinking, careless operative. Knowing the existence of this human equation in our plants, that he thrives not only with us but with all industrial institutions, it would then seem "good business" to put forth every effort, in training and educating him to a realization of the responsibilities he must carry while in our employ.

I believe this can only be done by frequent inspections and drillings, at which times all details of fire prevention and extinguishment should be taken up with the foreman or operatives in charge.

Some of the larger industrial plants maintain regular inspection departments. Rigid daily inspections are made, all conditions noted, recorded, reported and followed up. Lectures on prevention are given, drills arranged, and no effort spared to keep up an efficient organization.

These conditions are of course ideal and expensive, yet the same service on a modified scale is not beyond the reach of an average crude Oil Mill, and I would suggest to those interested in improved conditions as regards the fire hazard, the following:

Select for your Engineer, Oiler or Sweeper, one capable of absorbing the principles of Fire Prevention, having him devote one hour each day to "amateur inspecting," reporting to you conditions existing in the plant. The work in itself is a daily lesson to him and his reports often time will be a revelation to you. If you have made a wise selection in the man he will soon develop into a semi-professional and the result of his work will be evident even to the casual observer in any department of your plant.

I feel we are entrusted with the care of three separate and distinct interests.

Our Country, in that there may be no interruption in the production of Fats and Fiber, so necessary to our army as they carry the fight to the enemy on foreign soil.

Our Employers, that the plants they have builded, the industry created by their energy and thrift, may suffer no loss in productiveness or value, which thought or effort on our part might prevent

And the Insurance people who carry the risk. It occurs to me sometimes that we do not correctly

interpret our obligations to them. In case of loss "payment in full" is demanded. In the spirit of fairness have they not the right to expect "protection in full" to the extent of that agreed upon? They can look over their risk only periodically, its daily care is left to us, and I can imagine that "our stewardship" often times figures in the rate making under the heading "moral hazard."

This word "rate making" brings to mind another matter which might not be out of place in this paper.

Any deficiency in our plants on which there is an extra charge constitutes an extra fire hazard. True Fire Prevention means reducing or eliminating the possibilities of fire. Have we ever studied the "deficiency slip" on our plants? By "deficiency slip" I do not mean the "Inspector's recommendation;" these usually have a bearing only on maintaining the rate at present in force, while the deficiency slip to which I allude is the basis on which the rate was made.

You know in the beginning the Insurance Engineer went over your plant very carefully. He had in his mind the picture of a perfect Oil Mill such as no one of us have ever been privileged to look upon. He called it "Standard" in construction, "appointment, equipment, operation and personnel. He took your mill section by section, placed it beside this ideal of his, carefully marking down all unfavorable comparisons as they appeared to him. When his chart was finished it went to the rate makers, who began working out the "Deficiency Slip," tacking on a penalty of ten cents for this, fifteen cents for this, five cents for this, until the rating you now enjoy was finally made up. It seems the policy of American Insurance Companies to accept any kind of physical hazard their patrons are willing to pay for, and a reduced rating must be preceded by a reduced risk.

Examination of this "Deficiency Slip" would perhaps point out faulty building construction, design, exposures, etc., you could not remedy, and it might also show where at small expense your fire hazard could be reduced, and some dimes clipped off your rate per hundred, and credited to profit and loss account rather than charged to insurance.

ANNOUNCEMENT.

Mr. J. Edw. Crusel, Broker of New Orleans, on October 1st moved his office from 220 Varieties Alley to the ground floor 734 Common Street and will be glad to receive his friends at his new location.

"In peace or in war, thrift is the strong right arm of civilization.

ANOTHER WAR WILL OPEN WHEN PEACE IS DECLARED.

There is no doubt in the mind of any business man that at the end of the war will see the opening of a struggle in commercial lines and fortunate is that man or firm whose foundations are well laid for that struggle. During the time when the factory is not able to deliver goods is the time to keep the reputation of those same goods well in the mind of the public. It has been noted that Germany is gloating over the fact that we are asleep because our manufacturers are neglecting to advertise their wares during war time. No such neglect is to be found in Germany nor in England either. The British manufacturer awoke early to the necessity of maintaining his good will before the public, and anyone who scans a British automobile journal will find it filled with pages of advertising, in which there are no goods for immediate sale. The British manufacturer means to start out at the end of the war with the same advantages that he possessed when the war was declared. At the sacrifice of her own wants Germany is now supplying Holland and other neutral countries with goods and in so doing is laying the foundation for an after the war trade which will be essential to her life. Can the American manufacturer afford to slip into the forgotten past in the minds of the public because his sales force and his advertising department are bringing in no actual orders just now?

ENTERS THE TRAINING CAMP.

Mr. Horace N. Trumbull, advertising manager of the S K F Ball Bearing Company has entered the Reserve Officers Training Camp at New Haven, Conn. The artistic advertising copy which has been used by this company under Mr. Trumbull's management has been widely admired and the best wishes of the oil mill trade go with him in his military work.

A Foreign Visitor.

Within the last few days The Oil Miller had the pleasure of a call from Mr. F. Satow of Bombay, India. Mr. Satow represents the great Oriental trading company of Mitsui & Co. Ltd. He is in this country in the interest of their vegetable oil trade and is securing information in regard to the southern oil mills and their methods of operation. No industry has shown the wonderful, world wide, development that has been evidenced by the growth of the vegetable oil business within the last few years. We all are glad that it is our privilege to be included in this progressive business and that our first love, Cotton Seed Oil, is one of foremost in the ranks.

A WORD FROM MR. DENNY.

In speaking to the superintendents in Atlanta last spring Mr. D. B. Denny of Greenville, Texas, gave notice to a thought that will bear repeating at the beginning of the crushing season. He said: "It is not what we say but what we do in this struggle. We have got a victory to win, and I simply say to you all, that if you can raise the yield of oil even an ounce that is a cent. If you can manage to get a little more lint to the ton, do it. We find ourselves strangely situated in the oil mill business. I don't know any other industry that is situated as we are. We find ourselves making food, feed and munitions, and it is our duty to our country, to our employers and to ourselves that we exercise every energy possible to extract the maximum of all these different products at the minimum expense of power and labor. This is your fight. Get into it. We have got a victory to win."

AMERICAN-EGYPTIAN COTTON SUCCESSFUL IN SOUTHWEST.

The establishing of the American-Egyptian cotton industry in the irrigated valleys of the Southeast is assured, according to the United States Department of Agriculture, if present demands are maintained, prices remain near the present level, and if labor is available to harvest the large crops which have been planted.

War demands have had much to do with the recent phenomenal growth, much of the product being taken for special automobile tires, and for airplane and balloon fabrics.

The industry of growing this long-staple cotton was started in the Salt River Valley of Arizona, and has since spread to the Yuma Reclamation Project in California and Arizona, the Gila Valley of Arizona, and the Imperial, Palo Verde, and San Joaquin Valleys of California. The crop has increased in value from \$44,000 in 1912 to \$6,000,000 in 1917, and the area planted for this year's harvest 86,500 acres, is more than double that planted last year.

It is said that the belief is still prevalent that the American-Egyptian cotton-growing industry is as yet too small to be worth serious consideration and that while the product is of value there is not enough of it to be worth going after in the market. Also the transportation rates from the Southwest were so much higher than from Egypt that the American product was at a commercial disadvantage. These conditions have been reversed, however, since the war began.

In 1913, the latest prewar year, only 3,800 acres were planted. This year 86,500 acres were seeded, and at least 70,000 acres will be harvested, the difference representing the proportion that may be abandoned before picking time, the abandonment being due, in most cases, to the failure to get a good stand.

Eventually the area in this country may be expected to reach 300,000 acres, giving a total yield of 250,000 bales of the Egyptian type; this prediction is subject to the general proviso that the prices of fiber and seed remain somewhat near the present levels, and that labor may be had for picking so large an area.

Part of the needed labor promises to be supplied from the ranks of Indians in Arizona, and some of the labor has come from Mexico. Yet much more effort will have to be made than in the past to get labor for harvesting this year's crop. In short, now and in the future, the limiting factor will be labor, if prices keep up.

Community effort is needed both in growing and marketing. Some incentive toward organized effort has been furnished by contract with tire manufacturers who have financed the growing of the crop in return for an option on it; and at least three farmer's cooperative associations have been formed, one near Yuma, one in the Imperial Valley, and one in Fresno County, Cal.

An effective selling organization on a cooperative basis needs to be established, transportation difficulties overcome, and a recognition gained for the intrinsic worth of this long-fibered cotton, which already meets a real requirement in the long-staple cotton market.

An association should also arrange for producing and maintaining seed supplies that will insure standard varieties of the best type, free from admixture with inferior types. The Pima variety seems the most desirable so far developed, and pure strains should be made available for much larger plantings than have yet been made from this seed.

PRICE OF SEA ISLAND COTTON SEED.

The following announcement made October 8th by the Federal Food Administration of Georgia will be of interest to all who handle Sea Island seed or any seed that is without lint

TO ALL COUNTY FOOD ADMINISTRATORS:

We are requested by Washington to announce a decision that Sea Island Cottonseed, or seed that is without lint, shall be sold at \$5 per ton less than the established price on Upland seed

Therefore, the price for Sea Island seed in wagon lots will be \$63 per ton and the price of Sea Island Cottonseed in car-load lots will be \$66 per ton, f. o. b. stations.

The County Food Administrators are requested to make the announcement of this decision in their local county papers which will be official notice to all licensees and shall be effective as of September 28th, 1918.

Andrew M. Soule,
FEDERAL FOOD ADMINISTRATOR
FOR GEORGIA.

COTTON A WORLD WIDE CROP.

Editors Note: The following letter from Mr. H. Raisbeck Jones was published in a recent issue of Cotton and Cotton Oil News. It seems of interest enough to bring to our readers also. It may be recalled that we were able some years ago to print in this publication an article by W. A. Mott who spent some time in Turkestan and the future of that country as a cotton producing section is being watched with interest by all who are familiar with it.

The raising of cotton began in Russia about fifteen years ago. From the year 1904 to 1908 the average yield from American seed was 5,750,000 poods (one pood equals about 36 pounds); in 1914 and 1915 it was 22,000,000 poods. Turkestan, in Asiatic Russia, produces about 75 per cent. of the cotton grown, the balance being distributed between Bokhara, Khiva, Caucasus and parts of Persia. The region where the Russian cotton is grown is closed to all foreigners, and I was the only foreigner who had permission to reside for an indefinite period in that pre-historic country. The mode of living there certainly is very crude the houses being made mostly of mud, and no roads, lamps, newspapers and telephones are to be met with. It is seven days' journey from Moscow direct south over the Ural Mountains, and lies in a valley which is practically encircled by Persia, Afghanistan, India and Mongolia. The faces of the women are never seen, being heavily veiled. Their religion is Mohanmedan and their life and methods are certainly primitive. One sees wonderful specimens of their handiwork in the way of wood and brass work which is all hand-carved.

In Turkestan all of the cotton is irrigated by means of canals fed by the snows from the mountains that surround the country. There is practically no rain in Turkestan between February and September. In some instances the water is conducted a distance of 70 to 100 miles for irrigation purposes, and cotton is raised clear up to the foot of the mountains. The average production per acre is about three-fourths of a bale, but no fertilizer is used and the methods of production are extremely crude. The soil is of an alluvial nature, deep, sandy and fertile, and larger yields will be made when better cultural methods are adopted. To get an idea of the primitive methods used, the seed is sown broadcast by hand from a pouch carried in front of the native, and periodically the weaker stalks are pulled by hand. Cultivation is done by means of the "sokha," which is merely a sharpened stick affair containing no metal and drawn by oxen. The cotton is picked by hand in the same manner as the American. The gins are up-to-date and erected by American firms, and in many cases are the last word in gins.

To bring the cotton to market is not such an easy matter as in this country, for in most cases it has to be brought on the backs of camels many hundreds of miles across the country to be ginned. The manner of marketing the cotton is practically the same as in this country except that the competition is not nearly as keen. The price regulated by the American and Liverpool markets.

The cotton as a rule classes about American middling, with one and one-eighth inch fiber. Only about 60 per cent. of the cotton is white, and the remainder is cream, tinged or stained. There are five sorts of cotton, each sort being divided into five classes. There are eight differences between each class, and cotton is referred to as being so many eighths off or on a class, as the case may be. This naturally makes the classing more complicated. The cotton is sold by the farmer to the broker, who in turn sells it to the spinner. The chief cotton mills are situated in the vicinity of Moscow and Petrograd.

Give Russia time and it will produce its own cotton. Considerable progress has been made the last decade, notwithstanding crude methods and internal disturbances. Russia is short of cotton now because many men have been in the army, because an increase in grain crops at the expense of cotton acreage was imperative and on account of the transportation facilities of the country being demoralized.

I left Moscow in July last year and arrived in New York in November, traveling via Siberia and Japan, which was the only route open at the time. The reason that it took me so long to make this journey was on account of being held up several times in Siberia through disturbances in that country; having to wait on the Russian-Manchurian frontier which was closed for a period in Vladivostock this port also being closed and no one allowed to leave; also the difficulty of obtaining a steamer from Japan which were all booked up many months ahead. I was in Petrograd and Moscow at the time of the overthrow of the Czar, and the scenes that I saw enacted will long live in my memory.

I look forward to Russia returning as a great factor in the commercial world after all their present internal troubles have been overcome. She is now only passing through what nearly all the great nations have passed through in years gone by. The party at present in power is not representative of the people and their overthrow is only a matter of time, after which she will regain speedily all that she lost and be one of the countries of the future. As soon as the country is opened up by railways her wealth will begin to flow into the markets of the world.

WATCH YOUR BAGS.

There is no question that every oil mill is endeavoring to be as careful as possible that there shall be no waste in any department of the plant but there are some places that may slip by the attention of the manager. A recent editorial in *Flour and Feed* on the subject of care of bags will bear repeating.

"As every grain man in the country knows only well the cost of all bags, especially those made of burlap, is steadily mounting due to the war. The United States Food Administration has taken a hand and is doing everything in its power to bring to the attention of grain dealers and producers the necessity of conserving the present supply and taking better care of the old bags. In a letter to the Bosworth Bag Co., of Memphis, Tenn., Charles W. Merrill, of the division of collateral commodities of the food administration, and E. C. Heidrich, Jr., of the war industries board, write:

"We write to ask you that you use every reasonable effort to encourage and induce the farmers and other emptiers of burlap bags to take care of these bags and ship them to you or some other bag collecting and distributing agency as they are accumulated.

"This is necessary in order to conserve the supply of new burlaps and reduce the demand for shipping space now urgently required to meet the demands of our overseas army needs. It, therefore, becomes imperative that second hand bags be used wherever possible.

"It is really one's patriotic duty to take care of second hand bags during the present times. We ask your co-operation."

I AM THE GREAT DESTROYER.

I banish in an hour the work of years.
I pay nothing—but take all.
I smile when I see neglected piles of rubbish.
I wink my eye at my side partner the match
And my help mate, the cigarette stub.
I put my faith in the carelessness of men
A little spark tossed by the heedless
Into a pile of paper scrap or
Better still some cotton lint or excelsior
Gives me start and then
My greedy tongues lick up the
Handiwork of men. It is then I
Burn, burn and I am happy.
And when they have fought me and
I have conquered, I watch with
Glee the charred chimneys rising
Like sepulchers above the dying embers.
I am a King and when I start, let
All men tremble, for
I Am Fire.

CULTIVATION OF AMERICAN COTTON IN CHINA.

An augmented program of experimentation with American cotton seed in and about Shanghai has been laid out for this year by the Cotton Improvement Association of China, a body of 400 members recently started by Mr. H. Y. Moh, of the Hou Sung Cotton Mill and the Teh Dah Cotton Spinning Co. Mr. Moh has been experimenting with American cotton plants for the last three years, and has just received 2,400 pounds of American seed of a variety that gave gratifying results last season. These seeds are to be distributed among the members of the association. There is sufficient seed to plant 66 acres, which is expected to yield a return that will assure the planting of a very large area next year. Mr. Moh himself, besides planting his 10-acre experiment station at Yangtzepoo, will open a new station of 6 acres in Pootung to be devoted to the acclimatization of American cotton. The Pootung station will be conducted under the auspices of the Cotton Improvement Association.

Mr. Moh believes thoroughly in the future of American cotton in China. He has said, in substance:

This is the fourth year of my experiment station at Yangtzepoo, and the results last year were exceedingly gratifying. The season's crop spun consistently 32's and 42's whereas the usual return from Chinese cotton is 16's or 20's. Unsuccessful attempts to introduce American cotton have been due to late planting and to the use of seed from portions of the United States that are drier than the Chinese cotton districts. I studied cotton growing when I was at school in Texas, and when I wanted seed I placed the order where the climatic conditions more nearly approximate those in China.

There are further indications this year of an active interest in cotton improvement among Chinese officials. The chief of the Bureau of Industry of Kiangsu was in Shanghai a few days ago and talked over the problem with me, inquiring particularly into the results of experimentation with American seeds. He stated that the bureau was greatly interested and would give the closest attention to the matter.

"After the days of bloodshed are ended and peace again shines upon us as in the happy days of yore, we still shall need thrift. For the nations must bind up their wounds—through thrift. Through thrift alone can the rebuilding come—the rebuilding of America—the rebuilding of the world.

VICTORY is certain if you lend as fearlessly as the boys fight.

INDIA HAS SHORT OIL SEEDS CROP.

The Department of Statistics of India has issued its final general memorandum on the oil seed crop of 1917-1918. The report is based on reports from the provinces where over 98 per cent. of the rape, mustard and linseed are grown.

The total area under rape and mustard is reported to be 6,884,000 acres, which is 6 per cent. above the finally revised area of last year. The total estimated yield is 1,111,000 tons, as against 1,191,000 tons, the revised final figures of last year, or a decrease of 7 per cent.

The total area under linseed is placed at 3,737,000 acres, which is 5 per cent. above the finally revised area of last year. The total estimated yield is 507,000 tons, as against 526,000 tons, the revised final estimate of last year, or a decrease of 4 per cent.

While India is a long way from the cotton states and it would seem to be of little interest whether the crop was large or small, but when it is remembered that southern cotton seed oil is shipped and used the world over it can be seen that the shortage of oil in one country will have an indirect effect on the price and demand for cotton seed oil.

Cottonseed meal supplies the same element as fresh beef-scrap, so essential to the growth and productiveness of poultry. It is much more economical and safe.

A NEW KIND OF MARGARINE.

It is reported by the consul at Hull, England that arrangements have been completed for the manufacture of Kosher margarine in Hull. The margarine will be made exclusively of vegetable product and milk, the animal fats in standard margarine being omitted. The milk will be tested and sealed by a rabbi or his prominee, who will also supervise the process of manufacture. The local food committee will issue special licenses to retailers. It is also proposed to manufacture Kosher vegetable oil, and these products are expected to be on the market by September 15, 1918.

The manufacture of standard margarine in the United Kingdom is reported to have now reached the point where the country may be said to be self-supporting and not to require imports from abroad. It has been announced that at the end of September the fat ration will be increased from 5 to 6 ounces weekly per capita (margarine 4 ounces and butter 2 ounces), which represents about 75 per cent. of the consumption in normal times. Recently the quantity of animal fats permitted to be used in the production of margarine was increased to 20 per cent. of the whole, which satisfactorily increases the food value.

OIL MILL CHEMICAL CONTROL BULLETIN.**Average Analysis.****C. S. Cake and Meal.**

	Moisture	Protein	Oil
Average all Samples	8.52	41.74	5.92
Average Highest Samples	8.48	47.24	6.63
Average Lowest Samples	8.90	37.98	6.00

Average Analysis.**Cotton Seed.**

	Moisture	Oil	Hulls	Total Gals.	Ammonia
Average all Samples	9.00	17.30	46.00	47.1	4.27
Avg. Highest Samples	7.66	19.45	44.40	51.0	4.26
Avg. Lowest Samples	8.72	15.69	49.00	41.8	4.20

C. S. Hulls.

	Whole Seed and Meats	Oil in Hulls	Total Oil
Average all Samples	0.11	0.08	0.09
Average Best Samples	None	0.33	0.33
Average Worst Samples	0.40	1.13	1.21

Crude C. S. Oil.

	Refining Loss	Color Red	Free Fatty Acids
Average all Samples	8.2	6.1	1.1
Average Best Samples	7.1	4.5	0.8
Average Worst Samples	9.0	9.2	1.4

Houston, Texas,

September 15th, 1918.

Houston Laboratories.

P. E. Tilson, Chemist.

STILL THERE ARE NEW VEGETABLE OILS.

About three thousand years ago King Solomon said that "of the making of books there is no end." We believe that if he were alive today he would be moved to add "of the sourcers of vegetable oils there is no end." News now comes from the Malay States that they have been conducting experiments in the manufacture of oil from rubber seed and a recent report on the results of this experimental work says that the agricultural department takes a favorable view of the possibilities of this oil, stating that it needs little refining and that it is obtained from a waste product which is available in large quantities in Malay, easy to collect, transport, store, and crush. While, under normal conditions, the seeds themselves could profitably be shipped to consuming markets, with transportation facilities such as they now are the shipping of the oil would seem the better course. Oil made from an experimental consignment of seeds sent to the United Kingdom brought \$250 per ton, and \$40 per ton was realized for the residual cake. At the time linseed oil stood at \$300 per ton.

The production of rubber-seed oil, the department states, would not interfere with the market for coconut or sesame oil, as these oils are used chiefly in the form of margarine and cooking fats. They are not used, as rubber-seed oil would probably be, for paints, varnishes, red and white lead, packing compositions, and soft soap.

It is good news that we are not going to be expected to eat this new rubber-seed oil, it might be worse than chewing a rag and there is no prospect

that it will be a competitor of cotton seed oil but lives there an oil mill man with soul so dead that he is not interested in every new phase of his chosen industry.

EFFICIENCY BULLETIN.

The point of main interest in our report this month is the seed analyses. This average represents 237 samples received from Texas, Oklahoma and Louisiana. While the average available oil yield is only 4-10 gallons less than the same period for last year seed from the drought stricken areas of Oklahoma and Texas are running several gallons short. The seed from these dry section contain a large number of empties and are abnormally small. The tendency seems to be that as the per cent. of oil decreases the per cent. of ammonia increases.

Owing to the dry conditions, the cotton crop matured earlier than usual and therefore the mills started running earlier. The extraction standard on cake is normal. The oil left in hulls is light, some of it being due to small seed necessitating setting the huller close.

Cake Analysis.

No. Samples	Moisture	Ammonia	Protein	Oil	Standard
Avg. all Mills.. 158	7.72	7.96	40.91	6.42	.80
Best Avg. Result	7.60	8.00	45.75	5.75	.64
Worst Avg. Result	7.76	8.04	41.34	9.62	1.10
Annual Average					
Last Year 4008	7.88	8.13	41.77	6.50	.80

Hull Analysis.

	Whole Seed	Oil in		Loss	
	Number	and	Cleaned	Total	per Stand-
	Samples	Meats	Hulls	Oil	Ton Seed ard
Avg. all Mills.....	.61	.08	.72	.85	.28 2.28
Best Avg. Result. ....	....	....	.31	.35	93
Worst Avg. Result .....	....	.01	1.44	1.00	.92 4.43
Annual Average					
Last Year 1867	1867	.01	.98	1.10	.52 3.00

Seed Analysis.

Number Samples	Moisture	Calculated Yield		Ammonia in Seed	Percent. Oil in Meats
		Gal. Oil Per Ton	100 Lbs. Waste Lbs. Cake		
Avg. all Mills..... 237	8.01	34.7	1110	4.44	16.00
Best Avg. Result.	13.78	42.9	1052	4.21	19.90
Worst Avg Result	5.46	31.4	1112	4.45	15.41
Avg. this Mo.					
Last Year 141	8.95	35.1	1040	4.42	16.85
Annual Avg.					
Last Year 555	8.05	38.5	1008	4.25	18.18

The Fort Worth Laboratories,
R. H. Fash, Vice President.

FLORIDA GROWERS MAY GET BONUS FOR CASTOR BEANS.

Under the date of October 11th the Oil Paint & Drug Reporter states that government officials concerned in getting a supply of castor oil to lubricate

the rotary engines on airships are in conference regarding the necessity of offering a bonus to the growers of castor beans in Florida to harvest their crops.

This bonus inducement will be in the nature of an advance in price for the beans delivered over the price for the beans delivered over the price stipulated in their contracts.

A committee representing the growers of castor beans in Florida, where there is an acreage of more than 60,000 acres, has been advising here with the government officials in the Bureau of Aircraft Production, and the United States Department of Agriculture. This committee consists of D. C. Gillett of Tampa, Vance Helm of Miami and J. W. Dean.

The yield per acre in Florida has been way below expectations. The field agents of the Bureau of Plant Industry have reported a poor yield in all sections and poorer crop in Florida than in Texas and some other States. Officials of the United States Department of Agriculture admit the average crop will be very small. The growers have submitted surveys showing that the crop will average something like 2½ bushels to the acre.

With this poor yield, and the crop scattered, coupled with the shortage of labor, the growers have become discouraged and threaten to leave the bean to go unharvested. The labor situation is such that there is not enough hands to pick the cotton, much less to harvest beans 2½ bushels to the acre, when labor costs \$3 a day, and the beans will bring when shelled only \$3 per bushel.

The government officials are understood to be inclined to allow the growers \$6 per bushel, or double the price stipulated in their contracts. The contractors have filed a strong brief setting forth the difficulties against which they have to contend, some of which they blame on the government officials, and acidavits as to cost of production. They are arguing for an increase in the price to \$10 per bushel.

The government has contracted for something over 100,000 acres of Florida beans which must come up to a certain standard. The specifications, as announced, are as follows:

General.

1. This specification applies only to castor beans grown on government contract.

2. All samples of lots of beans, whether accepted or rejected, shall be checked by the assistant chief inspector of castor beans, Bureau of Aircraft Production, stationed at Jacksonville, Fla

Physical Properties and Tests.

3. General.—The beans must be "whole, sound and true to name"; that is, they must be really cast-

or beans and contains no mixture of spurious beans or seeds.

4. Weight Per Bushel.—The beans must not weigh less than forty pounds per struck standard bushel. The weight per bushel shall be determined on a "weight per bushel" testing apparatus of three (3) quart capacity only.

5. Dirt.—Including the weight of broken and decorticated beans, the beans must be 97 per cent. clean. If, for instance, the beans were 95 per cent. clean, payment would be made for only 98 per cent. of the total beans in the lot.

6. Black Beans. The beans must contain not more than 8 per cent. of black beans. Black beans are beans the insides of which are not absolutely white. This shall be determined by cutting in half lots of 100 beans each a sufficient number of times to obtain a check within two.

7. Broken Beans.—The beans must contain not more than 8 per cent. by weight of combined broken and decorticated beans.

8. Beans which pass through a 3-16-inch mesh screen and are retained on a 10-mesh screen shall be considered as broken beans, except that whole beans which pass through a 3-16-inch mesh screen shall be considered as clean beans. Broken beans which pass through a 10-mesh screen shall be considered as dirt.

9. Contractors may send samples for preliminary examination and analysis. Such samples must be plainly marked "For preliminary analysis," and must be sent to the Bureau of Aircraft Production, castor bean inspection office, 813 Heard Bank Building, Jacksonville, Fla. A letter giving all information concerning the sample must accompany the sample.

10. Preliminary samples must not be less than $3\frac{1}{2}$ to 4 quarts in size, as no attention will be paid to smaller samples.

11. The sample upon which acceptance or rejection

is based must be taken only by the representative of the Bureau of Aircraft Production, Castor Bean Inspection Office, 813 Heard Bank Building, Jacksonville, Fla.

Communications regarding all technical matters pertaining to specifications should be addressed to the Specification Section, Bureau of Aircraft Production, United States Army, Dayton, Ohio.

HARD OIL AND HOW IT IS MADE.

In a recent interview with J. J. Williams, a member of the Minnesota section of the American Chemical society, many interesting facts concerning fats were disclosed. There are only a limited number of sources of hard fats in any quantity. Most of them come from the bodies or milk of our domestic animals. And as demands on butter for eating purposes, on lard for cooking, and on mutton and beef fats for soapmaking and oleomargarine increased to such an extent that their cost to the consumer threatened to become prohibitive, the chemists stepped in and said, "We will make solid fats out of liquid oils."

To do this was theoretically simple, for the only difference between ordinary solid fat and the ordinary liquid oil is six atoms of hydrogen. That is, the main constituent of most fats is tri-stearin in which there are fifty-seven atoms of carbon, one hundred and ten atoms of hydrogen and six atoms of oxygen in a single molecule of stearin. The main constituent of most oils is tri-olein, with the same number of carbon and oxygen atoms, but with only one hundred and four atoms of hydrogen. By causing six atoms of hydrogen, therefore, to combine with the tri-olein it becomes tri-stearin; the oil has become a fat. This fat is not a new substance; it is absolutely the same stuff that Nature makes when she puts in the extra six hydrogens and makes beef tallow.

Thanks to the activities of our chemical engineers, cotton seed, corn, peanut and other oils in huge amounts are now conducted into one end of factories, exposed to hydrogen gas in the presence of nickel and under the proper conditions, and then taken from the other end of the factories in the form of white, solid fats sealed up in neat tins. Just as good as lard.—Exchange.

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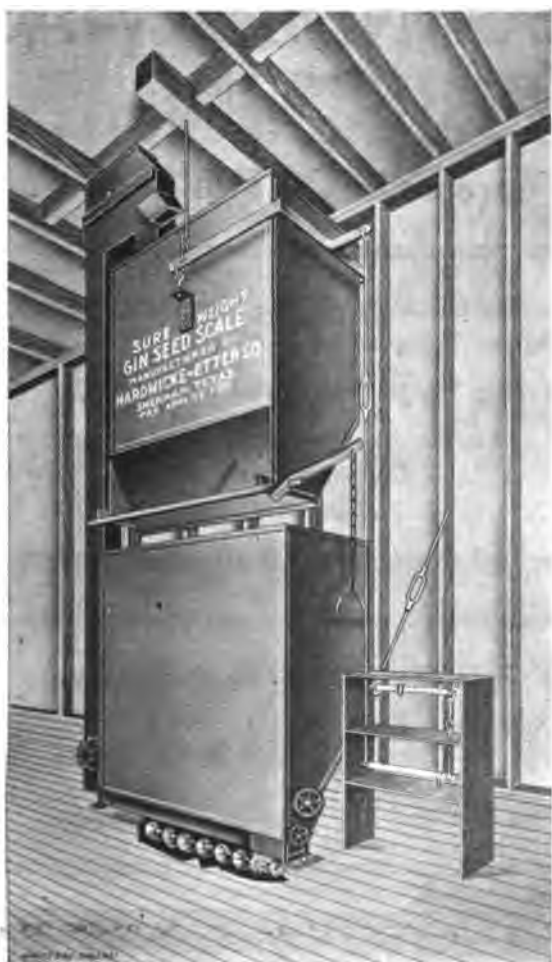
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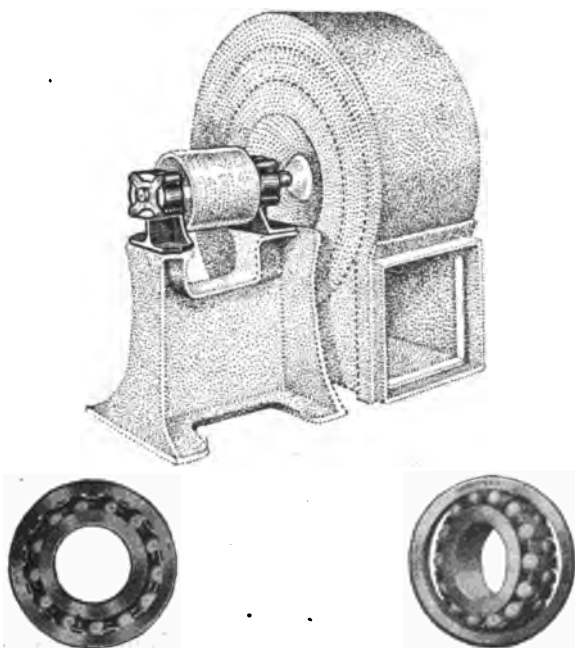
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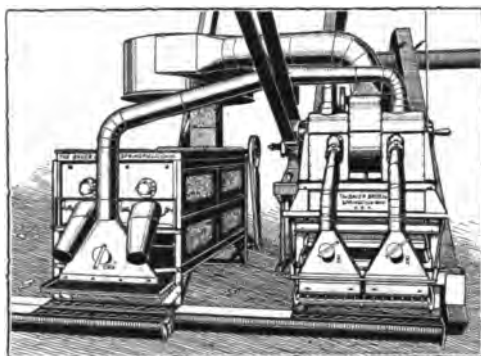
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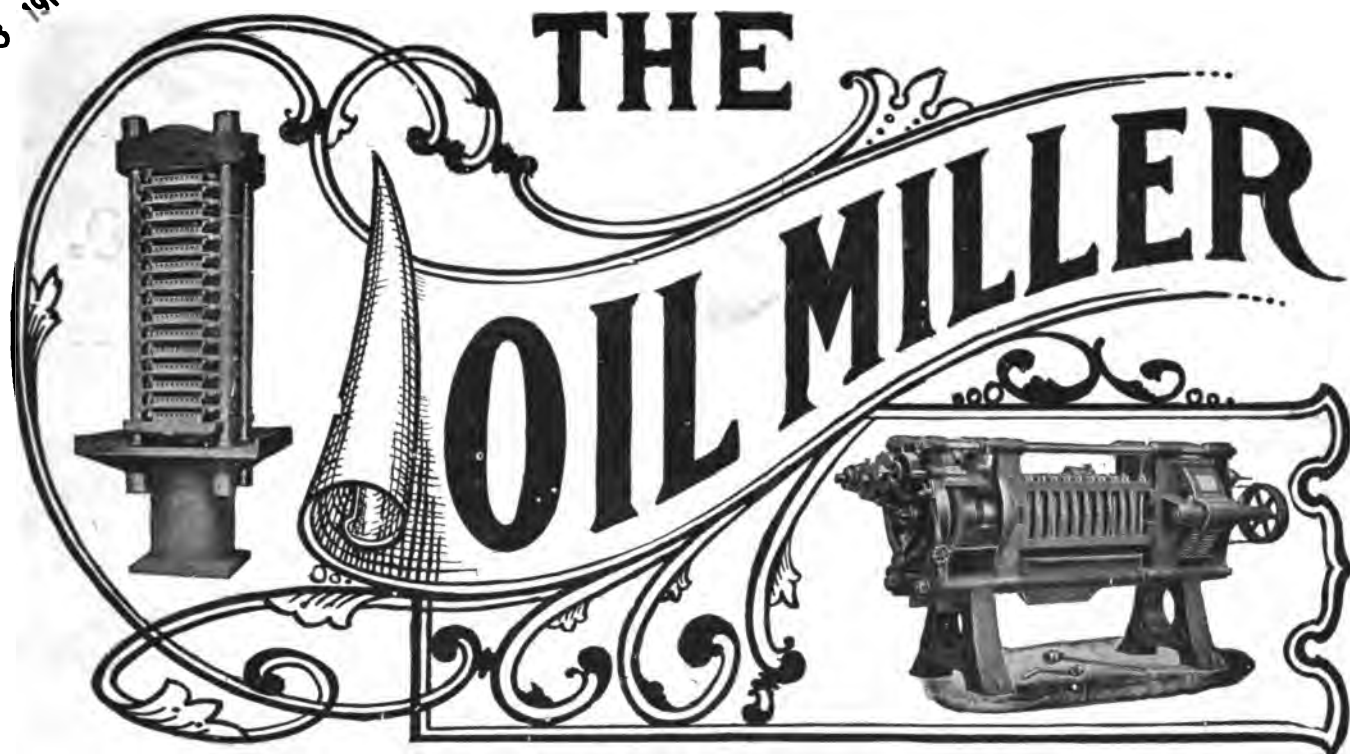
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ATLANTA, GA.
PUBLISHERS' PRESS, PRINTERS



Vol. IX. No. 3.
Monthly.

Atlanta, Ga., November, 1918.

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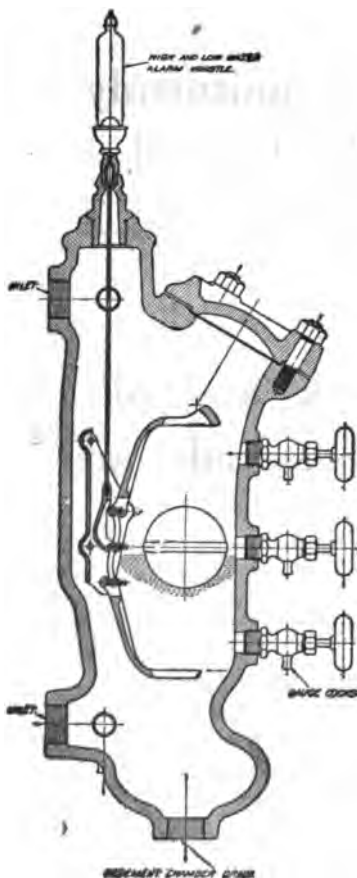
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not only determines the value of the seed, but it has a very large bearing on the keeping qualities of the seed, and, therefore, on the oil production, and it affects both the quality and quantity of the oil.

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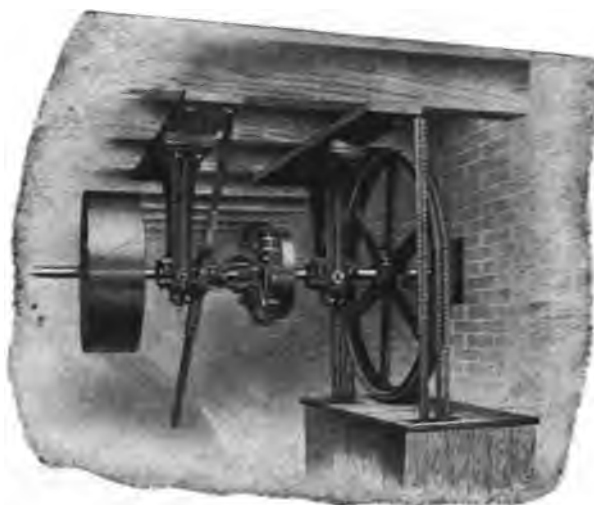
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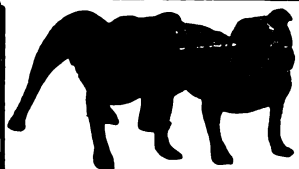
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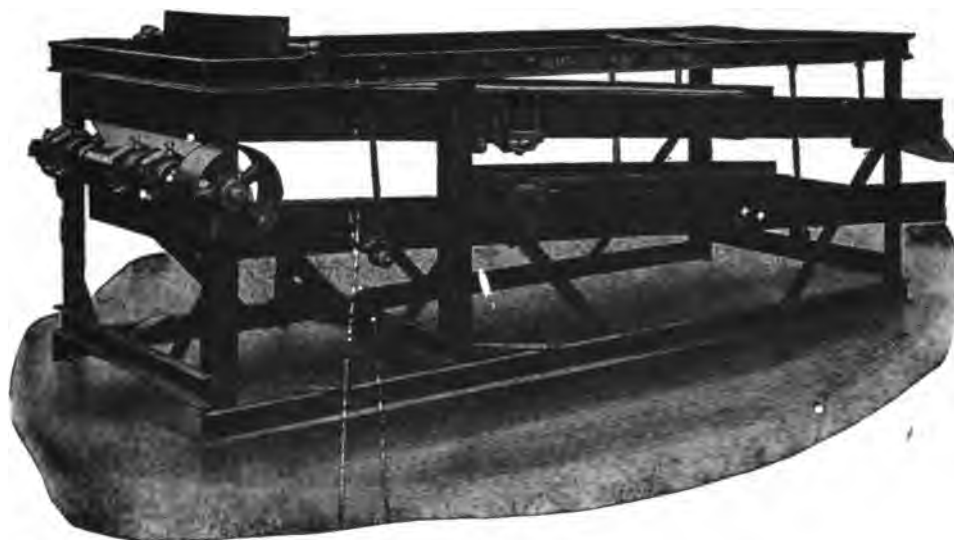


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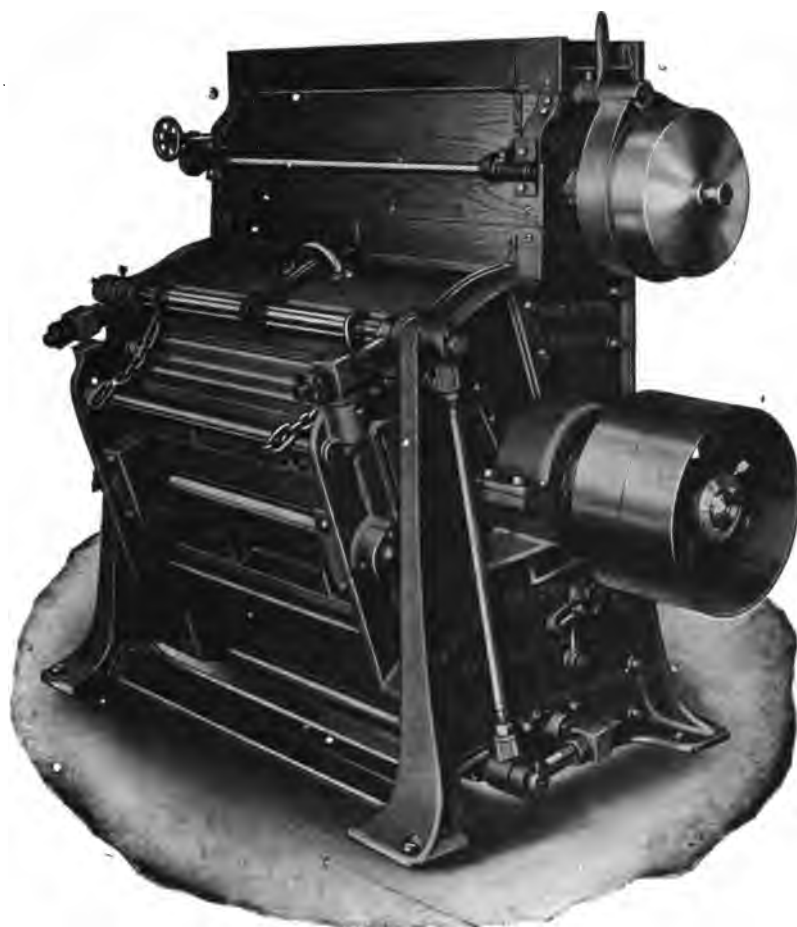
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A machine that is giving satisfactory results.

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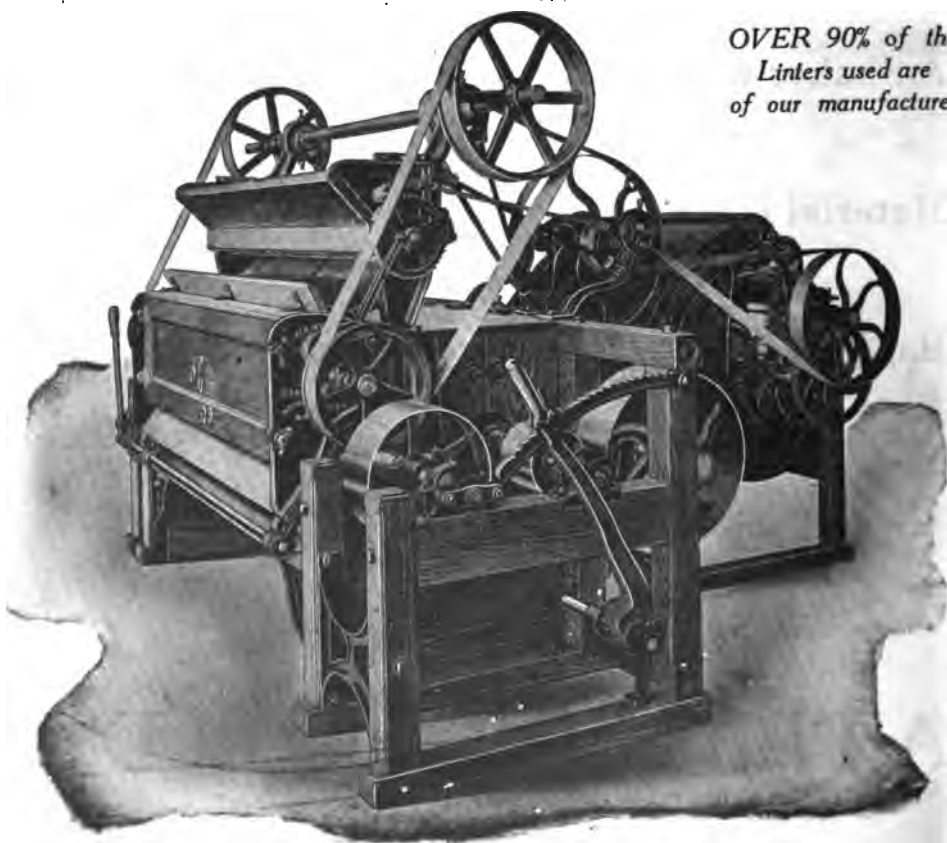
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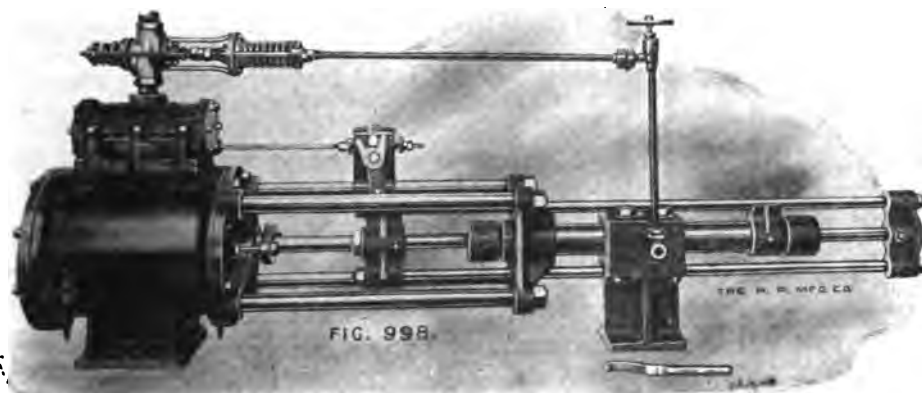
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Engineer-Builders of Hydraulic Machinery Exclusively.

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High Grade Hydraulic Presses for Oil Mills.

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Write for our special Seed Oil Press Bulletin.

A Friendly Act

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Medart "Hercules" All-Steel Pulleys are for Special Heavy Duty and Shock Load Service. Guaranteed on the money-back basis. Built to suit horsepower conditions. In any size wanted up to 16 feet diameter and 50 inches face, either solid or split construction.

The manager sold the prospect a cash register—not charging him \$1,000 however—which the man had stated a willingness to pay for service—but \$675, the actual selling price.

Have YOU not, on the occasion of the failure by breakage or distortion of a Pulley caused through extra hard usage in your plant, said to yourself, "I'd give a great deal to get hold of a pulley that would permanently solve this problem of annoyance and expense!"—?

Here's just exactly such a Pulley—the Medart "Hercules" All-Steel Pulley—the Master Pulley; the strongest, the most durable pulley made anywhere by anybody, especially conceived, designed and built, and successfully used by a wide variety and great number of industries throughout the country for extra heavy duty service and for withstanding constantly recurring shock or "hammer-blow" loads. It is built to, AND WILL, absorb punishment!

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The Medart "Hercules" All-Steel Pulley is built in all sizes and styles up to 16 feet diameter by 50 inches face; it is sold on a money-back or free replacement guarantee basis that it will do the work.

If desirous of having prices on definite sizes tell us (1) Nature of load; (2) Horsepower to be handled; (3) Speed of pulley; (4) Shaft size, and (5) Whether pulley is wanted solid or split construction.

Further facts will be gladly submitted upon receipt of request.

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Sure-Weight Gin Seed Scale

Designed to weigh at one time the seed from a whole bale of cotton. The weighing is done on an ordinary scale beam which the farmer can see and understand. It is substantially built with practically nothing to get out of order, and should last indefinitely.

The scale is manufactured by the Harwicke-Etter Company, and is equipped with the Howe Scale Company beam, which assures accuracy.

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Machinery and Mill Supplies.

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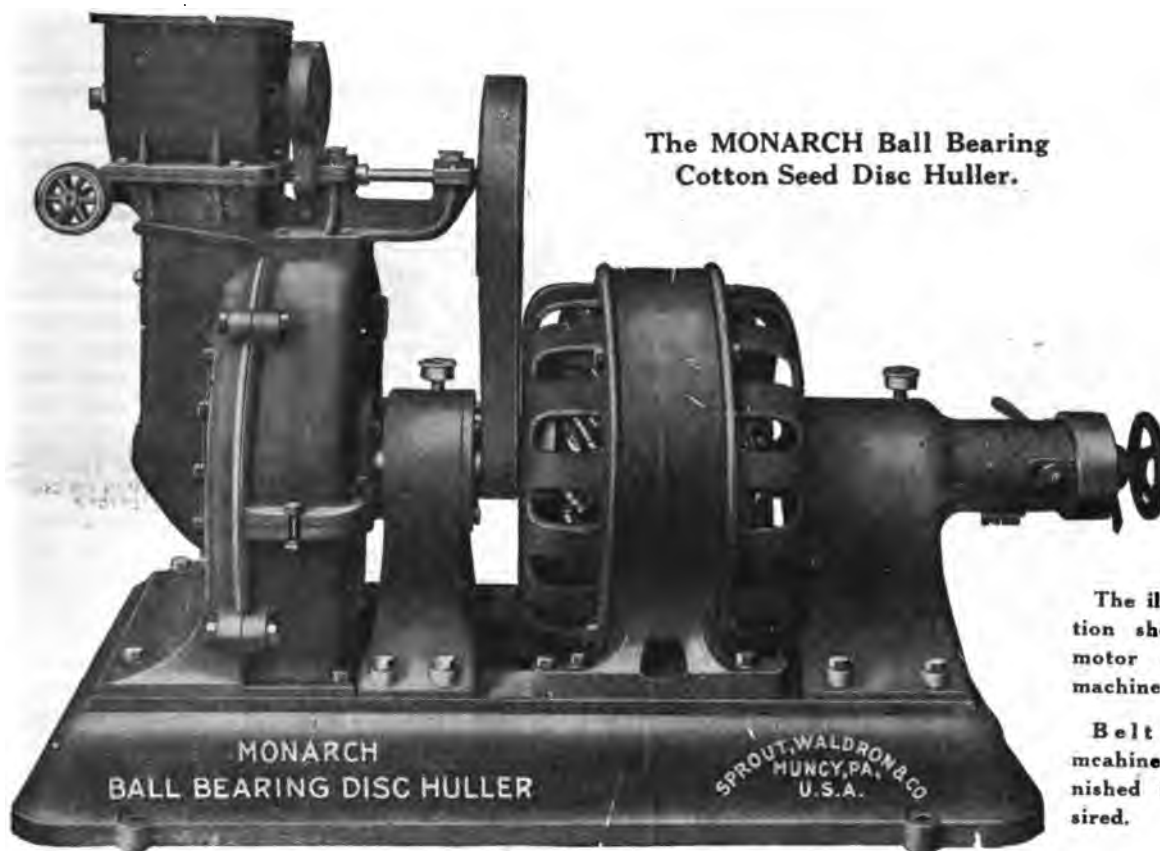
Are You Antiquated?

Years ago a mortar and pestle was the best grinding machinery known.

You are not using a mortar and pestle but is your mill equipped with the most modern machines?

It is poor economy to hold on to an antiquated piece of machinery, don't be an antiquarian by using equipment that is only 50% efficient.

The Monarch Ball Bearing Cake Mill not only spells—but is—100% efficient.



The MONARCH Ball Bearing
Cotton Seed Disc Huller.

The illustration shows a motor driven machine.

Belt driven machine furnished if desired.

Write for our catalog.

The famous MONARCH line has been tested by years of actual operating experience in the oil mill and is the best that can be procured.

The illustration shows the MONARCH BALL BEARING COTTON SEED DISC HULLER which, owing to its ball bearing feature, will save at least 50% power and 95% lubricating expense. Bearings are dust proof and fully guaranteed.

The MONARCH Line Consists of

Ball Bearing Huller Shakers	Cotton Seed Hull Packers	Ball Bearing Hull Bran Shakers
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Ball Bearing Meat Grinders	Ball Bearing Hull Grinders	Hot and Cold Cake Breakers
Complete Hulling and Separating Equipment		

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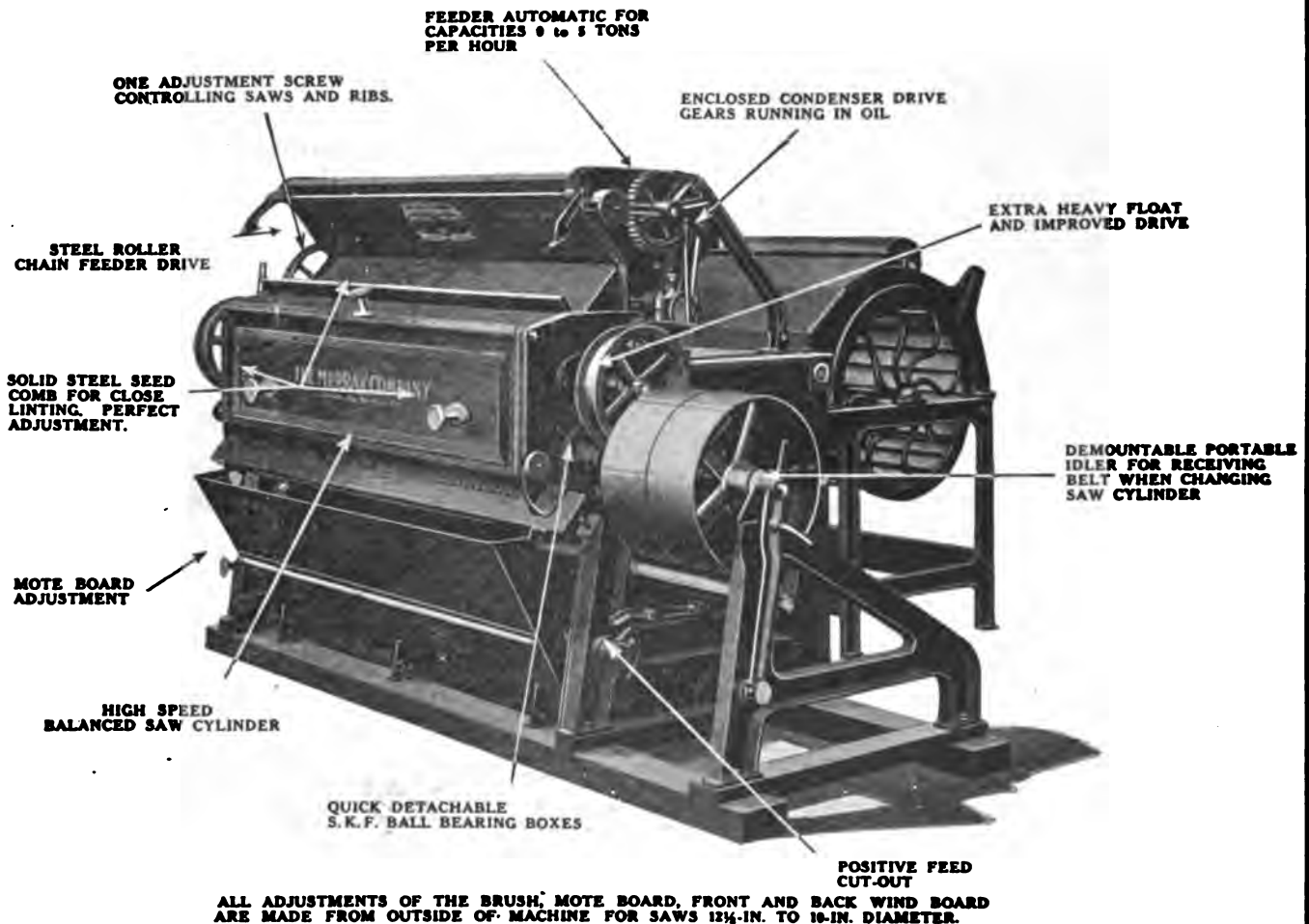
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Independent Drive, High Speed, Heavy Duty, Ball Bearing.



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100% Efficiency at All Times Delinting Cotton Seed or Cotton Seed Hulls.

For Saw Operating Speeds—750 to 1000 R. P. M.

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Write us for Specifications, Prices, Etc.

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ATLANTA U. S. A. DALLAS

THE OIL MILLER

Vol. 9.

Atlanta, Ga., November 15, 1918.

No. 3

THE OIL MILLER

OIL MILLER PUBLISHING CO.

MARY R. BURRUSS, Editor.

Atlanta, Ga.

Subscription Price: \$1.00 per Year.
Three Years for \$2.00

Address all communications to The Oil Miller,
Empire Bldg., Atlanta, Ga.

Advertising Rates Furnished Upon Application.

Entered as second-class matter March 4th, 1913, at post
office at Atlanta, Ga., under act of March 3rd, 1879.

Official Organ Alabama Cotton Seed Crushers Assn.
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Official Organ Inter-State Oil Mill Superintendents Assn.
Official Organ North Carolina Cotton Seed Crushers Assn.
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EXCUSES.

Lives there a man with so little imagination that he cannot, with little effort, invent a perfectly good excuse for any action or lack of action on his part?

There never has been a man connected with an oil mill, we venture to state, or for that matter with any other business, who could not on short notice give a very plausible reason why the result of his work was not what might have been expected.

Anything will serve in an emergency from the weather or the other fellow's blunder and on and on through the list of excuses until it will reach a special dispensation of Providence if need be, but in any case the excuse is ready. Some men have in the past shown especial ingenuity in the way of giving unique excuses to escape the blame which they might have to shoulder. Just now, though even these specially gifted beings need not exert themselves but, like the rest of the world, they employ the same excuse by which we all exonerate ourselves before the judgment of our own con-

sciences. It is an excuse we hug to our bosoms and feel is so satisfactory, "we are at war."

You want to buy a small bill of repairs and find it will be six weeks before the factory can ship, "we are at war." You need a lean-to shed and when you go to buy material because you have no priority rating and "we are at war" you cannot build. A farmer comes in with his seed and finds his friend the seed buyer has folded his tents and stolen away, "we are at war." You go to the press room and find it unspeakably dirty—actually unspeakably, for you dare not remonstrate a bit or your press room crew will walk out on you. You know by bitter experience that the press room crew runs the mill for "we are at war" and labor is hard to get.

You try to carry on your mill as you have for the last ten years and are met with obstacles at every turn. Untold delays arise, red tape tangles your feet and must be unwound. You fume and fret and since "we are at war" you swear, a thing abhorrent in peace times. But what's the use; the victim of your rage is perfectly immune, he simply does not care, "we are at war" he says and thinks no more about it.

When you stop a minute in the mad rush that seems to be upon the whole world and give a moment's sane consideration to the subject it presents an appalling aspect. What laziness and stupidity and selfishness and greed have been camouflaged by that thread-bare excuse. We shudder at the state of mind which has been reached by all the world. The war has burdens enough to shoulder and it should not be made a justification of all sins against honor and fair play.

Why don't we come out into the open and say frankly whether or not we mean to keep up this game of idleness, robbery and deception; for there is no doubt we are deliberately taking advantage of the war to cloak our greed and our ambition.

A REGULATION LIFTED.

Dr. W. E. Saunders, of Arlington, Ga., recently visited Atlanta and expressed his opinion on the hardship which was being placed upon both the mills and the farmer by the regulation which prohibited any mill having in hand more than two months' supply of peanuts. He stated that it was his intention to visit the food commissioners of the state and endeavor to put matters before them in such a way

that the regulation might be altered.

The daily papers of the date of November 13 contain the following statement: "Dr. Andrew M. Soule (food commissioner of Georgia) has issued an order, effective November 13, absolutely removing all restrictions on the handling and marketing of peanuts in Georgia."

Whoever was instrumental in having this change made deserves the thanks of all farmers and oil mill men in the state. Two and two make four and by the same process of reasoning the Oil Miller offers its thanks to Dr. Saunders.

DO WE APPRECIATE OUR OPPORTUNITY.

It has long been said that Americans were given to putting a high estimate on their own value and afflicted with the malady known as "Swelled Head." This may be true; the Englishman says it is and if we so give as the exception that proves the rule the estimate which the oil mill industry puts on itself. Yet, as a matter of fact even that industry does not put a low estimate on its importance; but the extent of its growth in the last few years has been so great that even those most interested cannot keep up with its progress. The soldier on the western front knows the advance that has been made in his particular sector; but he has little knowledge of the victories won on various other battle lines. So the individual mill man realizes the growth of his local mills but he sometimes misses the wider vision.

Great Britain sees the possibilities of the United States in following up the war in trade extension in vegetable oils. There is bound to be hot competition between the two. The south holds an enviable position in the edible oil field. Not only does it produce large quantities of cotton seed, peanuts and soy beans, but it holds a strategic position for the importation of other oil bearing seeds and nuts. Traffic by way of the Panama Canal will put the Oriental importations of copra and soya beans at her door. The islands lying just north of South America, Mexico, Central America as well as South America itself produce large quantities of copra while they have limited crushing facilities and consequently most of it is exported.

Now is the time for the south to plan to get her share of this business and hints on how to proceed are given in an editorial which appeared in an English trade journal devoted to the oil industry which reads as follows:

For many years we have been accustomed to look upon the cotton oil trade as the main vegetable oil interest of America, and in spite of occasional prophecies that the United States would very soon have domestic employment for all the cotton and

all the cotton oil producible within the Union, we have believed comfortably that we should get our share in some way. The events of the last four years have interfered with our comfort to a certain extent, but there are still a good many people, both in the cotton trade and in the oil mill trade, who look to America for a continuance of the supply. It is, however, a grave question whether these people are right in taking an optimistic view of the matter. America is an enormous country, and it is impossible to put a limit on the development of her population and of the resulting increase in consumptive ability. An America with a population of 200 millions is not an impossible thing in the future. At any rate, the growing needs of her population in regard to fats and oils is being taken quite seriously on the other side, and efforts are being made to increase the supply of all the vegetable oils. These efforts would scarcely attract capital and energy if the trade in America believed firmly that there was plenty of cotton oil not only for domestic needs but also for export to Europe, and we may probably take the present attempts to increase the production of vegetable oil as the measure of our chances of obtaining American cotton oil in the future. A very serious growth in the American production of coconut oil may easily indicate that our own supplies of this important member of the vegetable oil family may suffer severe decline. The output of copra is no doubt large, and with regard to some of the production we are in a fairly favorable position; but it is clear that the American mills will in the future be sharp competitors in the world's markets, and we know from experience that to buy against American competition means to pay high prices. The American production of coconut oil in 1917 is given as 20,000,000 pounds, or, roughly, 100,000 tons. Our own imports of coconut oil before the war were about 35,000 tons, taking refined and unrefined together. We have not the exact figures of the home make from imported copra, but this was probably less than the combined imported figures, so that America is already ahead of Great Britain in this particular department. Since the war began imports to this country have declined to a considerable extent, but, of course, we have no recent figures. The American imports of coconut oil are given as 163,000,000 pounds in 1917. Attention is now being drawn to the possibilities of the soya bean in America, and it is asserted that large tracts of land are suitable for its cultivation. The idea at present seems to be to grow the bean in the States, and thus develop a domestic supply of soya oil, and so long as this policy is pursued exclusively our own supplies need not be interfered with; but we imagine that when the possibilities of soya oil and soya cattle cake are fully realized in the United States it will not be long before there is sharp com-

petition for the world's supplies. There is also a growing interest in groundnut or peanut oil in American oil circles, and this may be watched with advantage. **Altogether we may anticipate that the United States in the near future will be the greatest producer and the greatest consumer of vegetable oils that the world has ever seen.**

NEWS NOTES.

Mr. R. M. Julian, formerly with the Marion Harper Mill at East Point, Ga., is now connected with the Planters Oil Company at Albany, Ga.

In order to keep up with the growing peanut industry of the state the Industrial Oil Mill of Hearne, Texas, has installed some modern peanut handling machinery and will prepare the nuts for confectioners' use.

Mr. C. M. Edwards who is with the Boyer Oil Company of New York City, having general oversight of several of their mills, was in Atlanta, Ga., recently on business for his firm.

The Dixie Oil Mill of Little Rock, Ark., has had the misfortune to suffer from a severe fire. In view of the fact that this mill has just been remodeled and was in good shape for the opening of the season it was especially regrettable.

NORTH CAROLINA MAN MAKES A CHANGE.

Mr. Frederick Behrends of Arizona Egyptian Cotton Company of Phoenix, Arizona, has made a trip through the south-eastern states within the past month visiting a number of the oil mills in order to put himself in closer touch with the methods of handling cotton seed. His mill is located so far outside the cotton zone that they do not have the advantage of association with others interested in the same line of business.

Mr. Behrends has been able to persuade Mr. W. Z. Crews of Pittsboro, N. C., to go out to Phoenix for this season where he will operate the mill. Mr. Crews has made for himself an enviable reputation in the oil mill business and will, doubtless, prove a valuable man to this far-away mill.

GERMANY LOSES ON A NEW FRONT.

It has been claimed that during the war Hull, England, has secured the palm kernel oil trade which formerly was handled largely by Germany. No efforts are to be spared to retain this trade in peace times. The large increase in the manufacture of margarine in Hull during the last four years will also take a big business from the continental countries.

TEXAS BEEF CATTLE TO BE SOLD AT GREAT SACRIFICE.

Never in the history of our state has there been such an opportunity for our farmers to buy registered and high grade cattle at such low prices, as is now offered by the stock breeders of Texas.

As is generally known the protracted drouth in Texas makes it impossible for her to feed her cattle, so ranchmen are anxious to sell at prices ranging from \$2.00 to \$3.00 less per hundred weight on all grades of cattle than obtained last year at this time. The prices this year will range from \$8.00 to \$10.00 per hundred weight.

The Government Administration of Railroads has put in an emergency freight rate of one-half of the regular rate, in order to meet this situation. Now is a great opportunity and under all these favorable conditions if our farmers do not take prompt advantage of it they may make a mistake.

If any one is wanting Herefords, Short Horns, Angus or any other grades, whether feeders or stockers, let it be known at once, and any one interested please advise their county agent or write us and we will help them. It is probable that a number of stockmen in each county community could form a pool and buy together, which, perhaps will work to advantage for all. Again, with sufficient assurance, Texas dealers might hold sales at different points along our line for the benefit of the farmers.

Nothing in this matter can be accomplished unless we hear from our friends who are interested and we are anxious to see them avail themselves of this most unusual advantageous opportunity.

Prospective purchasers should specify the number and kind of cattle they want, whether steers, heifers or calves. Farmers along the line of the A. B. & A. Railroad last year purchased through that company over 3,000 head of Texas cattle and these have proven a gratifying success. We would like to see every farmer own some stock as the mild winters, natural pastures and long grazing season of the South, make it one of the most desirable stock raising sections. Those who have engaged in it have found it profitable and this industry has engaged the attention of southern farmers everywhere.

W. W. CROXTON,

Gen. Pass. Agt. A

General Passenger Agent A. B. & A. R. R.

The last week of October marked the arrival at San Francisco, of the record-breaking cargo of coconut oil from the Philippines. The shipment consisted of 11,500 tons of oil which had a value of \$4,500,000.

TEXAS AND THE SOUTHWEST

(Donald Lowrie, Dallas, Tex., Special Correspondent for Oil Miller)

On the afternoon of October 4, the seed house of the Italy, (Texas) Cotton Oil Company, containing about 1,300 tons of seed, was destroyed by fire. A freight car standing on the spur alongside the building was also consumed. Defective wiring is said to have been the cause of the fire. The building and its contents were partly insured.

The Planters Cotton Oil Company, at Ennis, Texas, has just completed a reconstruction involving the expenditure of about \$75,000. Modern machinery has been installed throughout, and the new seed house is constructed of galvanized iron and concrete. Mr. R. E. Orr, the general manager of this company, says: "We bought a junk pile—and the territory. We have worked hard all summer to get the plant into shape, and expect to begin running early in November. In these days an oil mill has got to be modern and economic. The time has passed when cotton seed can be crushed by Tom, Dick and Harry using crude methods, and wasting the product.

This plant is especially well equipped to prevent and to fight fire, and the hazard is at the minimum, or will be as soon as the fire hydrants which are now being installed are ready.

A splendid example of the advantages accruing from the "basement drive" is afforded by the Navarro Cotton Oil Mill, at Corsicana, Texas, of which Mr. Lee Hamilton is general manager, and Mr. T. J. Brennan, superintendent. All the shafting and pulleys in this mill are under the floor of the main work rooms, within direct reach of a workman standing on the concrete basement floor. This, of course, does away with the use of ladders, and makes adjustments comparatively easy. The belts from the main shaft pass through slits in the floor to the machines above. It is claimed that the only other mill in North Texas with the basement drive is the one located at Terrell.

Mr. W. L. Holman, General Manager of the Southland Cotton Oil Company at Corsicana, says that women were employed in the mill early in the season, but the Texas law limits their labor to eight hours per day, or fifty-four hours per week. This made operation rather difficult, and a three-shift plan of eight hours' work was contemplated, but the end of the cotton picking season brought in plenty of male labor.

Daniel Boone didn't know anything about cotton seed oil, but one of his direct descendants, Mr. V. V.

Damon is manager of the Waco (Texas), Cotton Oil Company. Mr. Damon's grandfather settled Damon Mound, Texas, in 1829—Texas then being part of Mexico. One of Mr. Damon's most treasured possessions is the original pass-port signed by the Governor of Louisiana and issued to his grandparents for their journey into "Mexico."

The Hill Cotton Oil Company, Hillsboro, Texas, has just completed an entire reconstruction of its plant. The new seed house, of galvanized iron, is divided by a thick concrete wall, which practically makes two separate buildings under one roof. The new mill has six presses. Messrs. G. L. White and Ed Woodall are managers, with C. G. Denman, assistant manager. This mill is operated wholly by electricity.

C. W. Ramsey, Superintendent of the Cotton Oil Mill at Hubbard, Texas, has a piercing gray eye, and in general appearance does not convey the impression of having an over-abundance of feeling for the "other fellow," but appearances are often deceiving. They certainly are in this case for, during the influenza epidemic while one of his men, living close to the mill was very low with pneumonia and not expected to live, Mr. Ramsey gave orders that the mill whistle should not be blown as "it might worry the sick man." And every employe of the mill backed Ramsey up by getting to work on time each morning.

Fire destroyed the plant of the Dixie Cotton Oil Company at Little Rock, Ark., on the night of October 12. The company will rebuild at once.

There are not more than half a dozen cotton seed oil mills in Texas that have their quota of seed under the ruling of the Food Administration. Such mills as have their quota have secured it by importing seed from Louisiana.

"It takes four women to do the work of one man," is the way a well known oil mill manager of Central Texas expressed himself when asked about the employment of women in the oil mills. "We tried it, and paid the women \$2.50 per day," he continued, "but women simply can't do the work."

H. E. Wilson, manager of the Planters Cotton Oil Company of Navasota, Texas, says that quite a number of the mills in the South-west are contemplating the crushing of copra after the cotton seed is disposed of.



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1—Farmers Cotton Oil Co., Waxahatchie, Texas.

2—New Plant of the Hill Cotton Oil Co., Hillsboro, Texas.

3—Industrial Cotton Oil Properties, Waco, Texas.

4—Hubbard City, Texas, Cotton Oil Co.

5—The recently reconstructed Planters Cotton Oil Co. building, Ennis, Texas.

6—Fire destroys seed house at Italy, Texas. The seed house occupies space between the office and mill proper.



6

TEXAS AND THE SOUTHWEST (Continued)

COTTONSEED CAKE INCREASES 750 PER CENT IN VALUE.

W. I. Yopp, a cotton seed products broker of Dallas, says there is a great demand in Texas and Oklahoma, and in Kansas for cotton seed cake at the government-fixed price of \$57 a ton. The unusual demand, even at this price, is due to the short cotton crop in Texas and Oklahoma.

"There is a strong demand for cotton seed cake in Kansas," said Mr. Yopp, "and yet I can remember when we had to educate the Kansas farmers and stock raisers as to the value of this product for feed. Back in 1894 the corn crop in Kansas was a total failure. We sent a man up there and also through Northern Oklahoma offering cotton seed cake at \$7.50 a ton, but found it difficult to sell a carload a week. To-day the cattlemen in that section are literally begging for it at \$57 a ton f. o. b. the mills. The 1918 price of \$57 a ton is a 750 per cent advance over the price in 1894."

In addition to the demand from Kansas which Mr. Yopp refers to, there is a strong local demand, as well as a demand from North and North-west Texas for cotton seed cake with which to feed dairy cattle. A great deal of cake is also going to West Texas for range cattle. While late rains in that section have helped the ranges considerably, they have not been sufficient to produce enough feed to meet the situation.

The demand for cotton seed cake in Dallas is about double what can be furnished.

COTTON-STALK "HAY."

There is no sense in selling cattle because of lack of feed, provided cotton stalks are available, according to A. J. Hill, a farmer of Edna, Jackson County, Texas.

Last year Mr. Hill was caught in the drouth-section of the Gulf Coast of Texas with fifty head of cattle. The custom of that country is to depend upon the wild grass with a little feed.

"But my cattle were all poor," says Mr. Hill, "with no feed or grass for the winter. My cotton averaged about three bales to twenty-five acres. We had rain in September, which put a new growth on the cotton, but not enough grass for winter. I hunched my cotton stalks in wind-rows before the leaves were dry enough to crumble. They were immediately put into small round shocks and left on the ground until dried and then carefully handled and put into the barn. When I began feeding this cotton stalk hay to the cattle I was astonished to

see them eat the entire stalk. I had thought that the leaves only would be eaten, hence my care to preserve all the leaves possible. I have fed clover and alfalfa hay to cattle in the north with no better results than that obtained from the feeding of cotton stalk hay last winter. Two of my oldest cows, which were among the poorest, went through in good shape, and were sold on the market in May as butcher cows."

From the foregoing it would appear that cotton stalk "hay" is probably a safe feed, and capable of saving the lives of cattle. It would be interesting to have a scientific experiment carried out along this line.

OIL MILL CONSTRUCTION.

Many of the cotton oil mills throughout Texas are making necessary changes in buildings to conform with the requirements of the State Fire Insurance Commission, whose regulations, under the heading "Construction," contain the following:

"One story, frame or iron-clad, with metal, tile, gravel or composition roofing. Seed and hull warehouses to be supported by substantial solid dwarf brick, stone or concrete walls, extending from side to side. Area of seed warehouse not to exceed 10,000 square feet between standard division fire-walls, such walls, where required, to be of brick, at least sixteen inches in thickness, stone twenty inches in thickness, or reinforced concrete twenty inches in thickness, extending through roof in parapet at least twenty-four inches in height, and properly buttressed to insure necessary strength. Division wall to extend full width of building, and be T'd at each end a distance of five feet in each direction, or ten feet over all. Such T's may be four inches less in thickness than division wall, and should extend full height of walls at ends. All openings in fire-walls, except conveyor openings, to be protected on both sides of wall with approved labeled automatic fire-doors. Conveyor openings shall be sides flush with conveyor box. Floors of seed and hull warehouses to be of brick, concrete, earth or non-combustible material. Lighting to be by electricity with wiring in conduit and with outlets or fixtures at ceiling. Drop or pendant lights prohibited."

HOME CONSUMPTION OF LINTERS.

The war has developed a peculiar condition in relation to linters and hull fibre. To-day hull fibre, which ordinarily is worth one-half the value of linters, is selling for approximately the price of linters.

The government fixed the price of linters at \$4.67 for the purpose of making powder as cheap as possible, and in proportion to cotton, it surely is cheap. When the price of cotton was 16 to 17 cents a pound clean mill run linters were selling at 8½ cents. On this basis clean mill run linters to-day should be bringing 19 cents.

Last year the United States alone consumed 1,116,000 bales of linters out of a total production of 1,131,000 bales. This was due to powder making. The United States now owns and operates two immense powder mills, one in Tennessee, the other in West Virginia.

The man dealing in cotton waste to-day can sell about anything he may have. The American Cotton Exchange—the only cotton waste exchange in this country, located at Boston, with branch at Philadelphia and one contemplated for Atlanta—sometime ago established auctions at which all the “dead dogs” which had been kicking around for months and even years were put up and sold. The last auction was held many months ago.—There are no “dead dogs” left.

THE FOURTH POOR YEAR FOR TEXAS.

Texas is the greatest cotton-producing state. It plants about 12,000,000 acres to cotton annually, or about one-third of the cotton cultivated area of the South. Yet Texas has not been favored with ample rainfall since 1914. The rainfall for July this year was the smallest for 25 years.

On July 1st of this year a minimum of 4,000,000 bales of cotton was anticipated for Texas. It fell far short, but it is interesting to know that there are enough oil mills in the State of Texas to crush every seed of a 4,000,000 bale crop of cotton in 100 days.

REGULATIONS ON BOLL WORM COTTON.

By agreement between Attorney General John C. Wall, representing the State of Texas, and the growers of cotton in the prohibited zones, permission has been granted for the gathering of this year's crop under the supervision of the State and the United States Department of Agriculture. Under the written agreement evolved, the growers are permitted to gather their cotton crops governed by the following conditions:

That the crop shall be gathered at the expense of the grower under the supervision of the Commissioner of Agriculture and transported to the near-

est gin under his direction and to remain in the possession and custody of the commissioner until all necessary expenses incurred hereunder have been discharged.

After being ginned the baled cotton shall be transported to Galveston for water transportation to some foreign country or to Boston, Mass., and there fumigated by the vacuum process under the supervision and in the manner directed by the United States Department of Agriculture, and the cotton shall not be transported in any other manner. Shipment to Boston is when the cotton is intended for use in the United States.

Disposition of Seed.

The cotton seed shall be transported to some mill designated by the Commissioner of Agriculture, under his supervision, and immediately crushed. If the commissioner deems fumigation necessary, the seed shall be so treated at the expense of the grower or shipper.

The grower agrees that immediately after the cotton is gathered he will clean the fields by gathering all bolls, stalks and particles of cotton plants and destroy them by burning, same to be done under the supervision of and in the manner prescribed at the expense of the grower.

Will Grow No More Cotton.

All necessary expense in gathering, fumigating and marketing said cotton shall be borne by the grower, and to guarantee it he shall deposit the sum of \$20 per bale to the credit of the State Commissioner of Agriculture before the cotton is moved from the gin. Unexpended balances will be returned to the grower by the commissioner.

Growers also bind themselves to return to the baling gin all cotton held prior to the making of this agreement, where it shall be in the possession and custody of the Commissioner of Agriculture.

In conclusion, the growers bind themselves not to plant, grow or cultivate any cotton plants or cotton on any land situated within territory in Texas in which the governor's proclamation prohibits the growing of cotton. They also voluntarily submit to the jurisdiction of the district court selected by the Attorney-General for an injunction prohibiting the growing of cotton in prohibited zones until the quarantine shall have been raised by executive proclamation.

THE INCREASING DEMAND FOR COTTON SEED PRODUCTS.

Talk about curtailment the production of cotton is unreasonable. It fails to take into account the fact that there is an ever-increasing demand all over the world for fats—the war having greatly depleted the world's stock of cattle. Cotton seed oil is now more essential than ever. Cotton seed oil products

are rapidly taking the place of animal fat products—butter included.

The world uses from twenty to twenty-two millions of bales of cotton of all kinds, but cotton, while practically indispensable, is not a food. Cotton seed oil, and its products, is a food. Food is the first requisite of man, and to talk about "curtailing" the production of essential food stuff is paramount to an advocacy of the curtailment of man.

OUR COTTENTENTE ALLIES—SHALL WE DESERT THEM AFTER THE WAR?

By Lehman Johnson, Ph.B., Cotton Seed Specialist.

The Supreme War Council which brought about peace was and is composed of the War Industries Board of which Bernard M. Baruch is chairman, and the United States Food Administration, of which Herbert Hoover is chairman, assisted by many subordinates.

The merits of the settlement are: 1. We have peace where discord existed. 2. The consumers and the government save some fifty million dollars over what they would have saved if prices had not been fixed just as in the case of wheat. 3. Provision has been made by which cotton gins may be shut down temporarily, seed kept in better keeping condition with the cotton and the spoiling of immense quantities of food and feed from cotton seed prevented.

Our crying need everywhere is for seed cotton storage, as I pointed out in the Scientific American when the foreign war began.

The faults are: 1. Absolute failure to recognize or promote the much ignored fact that cotton linters (reginned cotton), cotton oil, cotton meal, cotton seed hulls and hull bran and fibre are cotton plant products equally with staple cotton and deserving of the same fair, accurate and delicate handling that staple cotton is receiving; in short that these products of the seed constitute a crop in themselves and are not "by-products" of a crop. (2) That the settlement made has no elements of permanency; (3) One of the dictated prices that of cotton linters or regins, fixed by the War Industries Board, before the short crop was known, below 5 cents a pound, is too low while the dictated price of \$20 a ton fixed by the United States Food Administration for cotton seed hulls from which the other board requires at least 145 pounds of cotton per ton of seed to be stripped, is too high.

Greatly reduced in actual value both from a feeding as well as from a fiber standpoint neither owners of milk cows nor fiber mills can afford to buy them at 1 cent a pound and they have accumulated at the mills beyond their limits of storage and are in serious danger of waste from heating.

A common sense readjustment that would clear the situation would be to add at least 25 per cent to the

fixed price for linters and reduce the fixed price of hulls by this amount leaving everything else the same. This would give a price of linters of 5.85 cents a pound and on hulls of \$12.18 a ton saving every owner of a cow seven cents a day on his cow feed per head. If the linter addition were applied to reducing price of meal \$53 per ton) it would save less than 1 cents per day per head. (4) Most serious of all has been fixing too great a difference between various grades of cotton meal namely \$1.00 for each one per cent of protein difference when no such commercial difference at all is made between corn, corn meal and corn bran which also differ widely in protein. Worse still is requiring that the seller shall pay back to the buyer any deficiency in protein in the grade of cotton meal sold (which may be the result of accident or conditions he cannot control) not \$1.00 per unit only, already excessive, but \$1.40 per unit without receiving one cent for any excess of protein. (5) The "Zone System" of buying and selling cotton seed is bad. By it all seed within a prescribed zone are seed just as "pigs is pigs" and must be bought and sold within that zone at a fixed average price regardless of oil content even though recent tests for oil in the seed, which of course gives them their chief value, show that within the same zone some seed are worth \$9.00 a ton more. Intelligent farmers, who, individually or collectively, can ship entire cars of seed, should join with intelligent oil millers and insist upon the right from the Food Administration to make deliveries of seed at the zone price subject to readjustment by so many dollars and cents above or below for each one per cent of oil contained in the seed above or below the average content. Then we would have the four walls of a box car as the zone and a scientific and simple system of seed purchase with some element of permanency.

This review or criticism, as one may choose to call it, is constructive. On what is solid and right in the foundations laid (and there is much that is so) injustices can be changed so that all may be glad of the recognition which incomplete as yet the United States Food Administration has given the cotton plant, and, therefore, entitled to the same respect that we accord the true cereals—corn and wheat. There is nothing in the arrangements that we should permit to dampen our patriotism. We have a right to insist on readjustments, in fact, we will be very short-sighted if we do not, and this is work that should be immediately taken up by the old and new Chamber of Commerce forming everywhere in the Cotton States without delay and before seed have all passed out of the farmers possession.

A last word—while we have in the Cotton States cheerfully acquiesced in a fifty million dollar gift from the Cotton States to the public, as wheat grow-

ers have, we should remember that the very cheapness and lowness of the prices fixed for cotton plant products enables us in the Cotton States to make one hundred million dollars profit by buying cotton plant products at these low prices and using them for food for ourselves and feed for our livestock in place of the much higher priced articles we have been accustomed to buy. For instance, we can save a Thrift Stamp, twenty-five cents, by buying five pounds of cotton oil over a five pound pail of compound lard; two Thrift Stamps over such a pail of hog's lard. **Moral: Buy cotton plant products, then Thrift Stamps and Liberty Bonds with the savings thus made, and help win the war!**

If we people of the Cotton States would stop 'over-loving' cotton, follow the lamented Henry W. Grady, divide our affections and respect between all the products of the cotton plant, and teach, by our example, our Northern and Western friends to do the same, then we need have no fear that whatever prices may be fixed for any cotton plant product for the duration of the war and a year thereafter will be anything but fair prices. Reader, if you haven't read Grady's tribute to the cotton plant—all of it from bloom to seed—look it up. It's worth reading.

War Changes.

Postscript—In view of the already partial, and soon almost complete, opening of the world's markets to cotton seed and all other products with plenty of ships released from war needs, there will be a shortage of half a million tons of cotton meal and the need of stretching it by the addition of more of the cotton seed "berry" is as imperative as in the case of wheat. A Liberty Cotton Meal composed of 2,750 pounds of prime cotton meal and 1,500 pounds of hull bran 25 per cent protein would solve the problem, permit the price of hulls and linters to be retained and price of \$20.00 to be fixed for hull bran and four cents a pound to be fixed for hull fiber. Mr. Hoover and Mr. Baruch should jointly undertake this.

L. J.

RECORD BREAKING.

There is one record which the oil mills do not want to try and break. It has been reported that in Texas alone there were nearly 400 fires in cotton gins last year, involving a loss of something like a million dollars' worth of cotton. The United States Department of Agriculture is endeavoring to work out some method of preventing such an enormous loss by fires of this sort which destroy such unreasonable quantities of necessary material.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of The Oil Miller, Published Monthly at Atlanta, Ga., for October, STATE OF GEORGIA—County of Fulton—ss:

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Mary R. Burruss, who, having been duly sworn according to law, deposes and says that she is the owner of The Oil Miller and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the editor, managing editor and business managers are: Editor, Mary R. Burruss, Empire Bldg., Atlanta, Ga.; Managing Editor, same; Business manager, same.

2. That the owners are (Give names and addresses of individuals, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock): Mary R. Burruss.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are (If there are none, so state): None.

MARY R. BURRUSS, Owner.

Sworn to and subscribed before me this 28th day of Sept. 1918.

(Seal)

W. A. JONES, N. P. Fulton Co., Ga.

(My commission expires April 14, 1920.)

EFFICIENCY BULLETIN.

It is noticeable that this month in the hull and cake analyses the effect of trying to get all the lint that is possible. Probably every mill will have this fight all through the season to keep the protein in the cake up and the oil in the hulls down while cutting the lint which every mill is trying to cut this year.

Accompanying this bulletin is a cut of the new seed machine which was produced this past summer by Mr. John Malowan of Houston. Like every other new piece of machinery, it has been necessary to make few changes in this machine to get it to operate satisfactorily.



The cleaning machine is composed of a huller, similar to a bar huller, a shaker and a set of rolls. By passing the seed through the machine twice, as is done in a double-hulling system, we are able to get a good separation of the meats and the hulls. Up to the present time, we have found it necessary to make an oil analysis after the separation of the hulls and take this into account in figuring the analysis of the seed.

The two special advantages of this machine over

the former method of handling seed in the laboratory, are that a larger sample of seed can be worked on and that the tedious, laborious process of picking the seed out of the hulls is done away with. We feel that the cotton seed industry owe a good deal to the efficient men with the Houston Cotton Oil Mill for designing and working out this machine in the first place, and to Mr. John Malowan for being willing to supervise the construction of this machine, during the past summer, for the different laboratories who wanted to try it out this year. The machine certainly saves time and increases the accuracy of seed analyses and we are glad to report that our machine is working satisfactorily at this time.

Cake Analyses.

	Number Samples	Moisture	Ammonia	Protein	Oil	Standard
Avg. All Mills.....	588	7.82	7.85	40.34	6.07	.77
Best Avg. Result.....		7.88	7.86	39.38	5.10	.66
Worst Avg. Result.....		9.12	6.46	33.20	7.25	1.02
Avg. This Month						
Last Year	535	7.84	8.18	42.07	6.40	.78
Anl. Avg. last Yr.....	4698	7.88	8.13	41.77	6.50	.80

Hull Analyses.

	Number Samples	Whole Seeds and Meats	Oil in Cleaned Hulls	Total Oil	Loss per Ton Seed	Standard
Avg. All Mills.....	271	.08	.72	.84	.27	2.24
Best Avg. Result.....		.18	.35	.46	---	1.22
Worst Avg. Result.....		---	1.46	1.60	.88	4.26
Avg. This Month						
Last Year	248	---	.67	.72	.11	1.92
Anl. Avg. Last Yr.....	1867	.01	.98	1.16	.52	3.09

Seed Analyses, Calculated Yield.

			Calculated Yield 100 Lbs. Waste			
	Sam- ples	Mols- ture	Gal. Oil Per Ton	Lbs. Cake 8% Amm.	Ammonia in Seed	Oil in Meats
Avg. All Mills.....	255	7.79	36.4	1065	4.34	17.35
Best Avg. Result		9.07	41.3	1002	4.01	19.28
Worst Avg. Result		8.00	31.4	1125	4.50	15.39
Avg. This Month						
Last Year	127	8.50	37.8	1080	4.34	17.93
Anl. Avg. Last Yr.....	555	8.05	38.5	1009	4.25	18.18

Oil Analyses.

	Number Samples	Refining Loss	Color Red	Free Acid
Avg. All Mills.....	22	7.4	6.5	1.6
Best Avg. Result.....		5.1	5.4	.9
Worst Avg. Result.....		10.5	9.4	2.7
Avg. This Month Last Yr.....	33	8.1	7.8	2.1
Annual Avg. Last Year.....	468	7.6	7.6	1.8

THE FORT WORTH LABORATORIES,
F. B. Porter, President.

VEGETABLE-OIL INDUSTRY OF KOBE.

(Vice Consul E. R. Dickover, Kobe, Japan.)

The process of crushing the seeds of various plants for the purpose of extracting the oils contained therein has been known and employed in Japan for centuries, the art probably having been brought over from the Asiatic mainland during the seventh and eighth centuries, anno Domini, when Chinese and Korean civilization was introduced into Japan. Rape-seed oil has long been used for frying fish and lobsters and is to-day the principal fat in the Japanese diet. Cottonseed oil was used as a substitute for rapeseed oil and for lighting purposes, while perilla oil was and is to-day used as the water-proofing element in the manufacture of paper umbrellas and oiled-paper lanterns. The ancient Japanese also understood the extraction of oil from woods, as "tung," or wood oil, was used before coming of the foreigners. "Tsubaki" oil, a highly pungent and cheap essential oil extracted from the camelia plant, has been used in the past as it to-day by the Japanese women in arranging their elaborate headdresses.

The production of vegetable oils in sufficient quantities to enter largely into the foreign trade of Japan, however, can not be said to have begun until the last ten or twelve years, or since the Russo-Japanese war. One of the first fields to attract the attention of Japanese capitalists in Manchuria after the war was the soya bean oil industry. Large power mills were established in Dairen, and their success encouraged the capitalists to build mills in and about Kobe, where skilled labor could be easily obtained and where the subsidized Japanese steamship lines could bring soya beans from all North China and Siberia. The industry was more or less successful, but suffered severely at times from the low price of bean cake, upon which the millers depend for their profit. The real prosperity of the vegetable-oil industry in the Kobe consular district did not begin until about 1916, when the world scarcity of oils brought on by the war created a demand which it was difficult to fill and raised the price until the mills became nearly independent of the sale of bean cake. The factories have been steadily enlarging their plants and increasing the variety of oils extracted, until to-day the Kobe district has become one of the world's centers of vegetable oil production.

There are two principal causes for the remarkable development of the vegetable oil industry in this section of Japan—a supply of cheap labor and adequate shipping facilities. Although the price of labor in Japan has nearly doubled within the past two years, it is still far below that of Europe or America, and the labor itself is reasonably sufficient. By far the chief cause of the development of the in-

dustry, however, is found in the excellent shipping facilities. While the rest of the world was suffering from a lack of vessels and oil seeds could not be moved to their accustomed markets, the Japanese maintained their steamship lines to practically every port of importance in the Far East. These lines converge at Kobe and bring to the oil mills copra from Singapore, Java, and the South Seas; soya beans from Darien, Newchwang and Vladivostok; peanuts from Tsingtao and Tientsin; cotton seed from Genzan, Tientzen, and Shanghai; rapeseed from Hakow and India; and castor beans from North China and India. The oil, moreover, can be loaded at Kobe on ships going to any part of the world. This does away with the necessity of trans-shipment, and thus prevents large additional leakage.

In the Kobe consular district, which includes the western half of the main island and the Island of Shikoku, there are now twenty-five vegetable oil mills producing 170,500 cases, or 5,783 long tons, of oil monthly, divided into varieties approximately as follows: Soya bean, 60,500 cases, or 2,115 long tons; coconut, 52,000 cases, or 1,734 long tons; rapeseed, 42,000 cases, or 1,400 long tons; and cotton seed, 16,000 cases, or 534 long tons.

Of the total production, 115,500 cases, or 3,850 tons, are produced in or near Kobe, the rest being extracted in the Nagoya section. The above figures represent the approximate output of the mills as they are running to-day, but at times, depending on the raw materials available or the demand for the oils, the variety of oils expressed changes. Thus, a mill in Kobe which usually crushes soya beans recently crushed a shipment of peanuts with a part of its machinery. Other factories can adapt their plants to express coconut or castor oil.

It is to the great variety of raw materials obtainable, because of the excellent shipping facilities, that Kobe owes the greater part of its success in the vegetable oil industry. If a supply of one material runs short, or if the demand for the oil then being expressed decreases, the mill usually can, by slight adaptations of the machinery, change to another variety of raw material. Copra and peanuts, to be properly crushed, require special machinery, but soya beans, rapeseed, cotton seed, linseed, perilla seed, castor beans, or sesame seed may all be crushed in the same mill, with more or less adjustment of the machinery. Any of these raw materials are available at certain seasons and this factor gives the Kobe mills a tremendous advantage over those situated where similar shipping facilities can not be obtained.

The soya beans crushed at Kobe come principally from Siberia and North Manchuria by way of Vladivostok, Darien, Newchwang, or Antung. The quality of the beans from the different districts does

vary somewhat from year to year, depending on the weather conditions during the growing season. Soya beans are usually shipped in jute or straw bags containing about 133 pounds each.

Copra is imported from Singapore, Samarang, Batavia, Macassar, Yap, and other South Sea island points. There are two principal varieties, sun dried and kiln-dried. The sun dried copra is much superior and is sold under the trade name of "pure" copra. Kiln-dried copra is not uniform and is likely to have a large water content which causes a high percentage of free fatty acids in the oil. Kiln-dried copra, therefore, sells at a much lower price than the sun-dried, and the Japanese mills commonly use a mixture of the two varieties. Copra is generally shipped in bulk. There has been plenty of copra available for the Japanese mills, but recent restrictions on its exportation from Singapore and Java have reduced the supply somewhat.

The supply of cotton seed for the Japanese mills depends on the state of the cotton crops in Korea and North China, whence most of the seed is imported. The best comes from Korea, the superior quality being due to the fact that much of the Korean cotton is raised from American seed. After two or three generations, however, the quality of the seed, as well as that of the cotton, deteriorates, and new seed for planting must be imported. The next best seed comes from Tientsin, while the poorest quality is the black cotton seed from Shanghai.

There is a sufficient supply of rapeseed raised in Japan for oil for purely domestic consumption, but since the exportation of the oil has increased the larger power mills have found it necessary to import the greater part of their supplies. The best rapeseed comes from Shanghai and Hankow in a number of varieties. The rapeseed from Tientsin is of good quality but brings a lower price, because it is usually mixed with the seed of the wild mustard, which springs up in the fields and can not be easily segregated or removed. Rapeseed has also been imported from India recently. It comes in two varieties, yellow and brown, both of which are of fair quality. The output of rapeseed in India is said to be more than 1,000,000 tons annually, and it is likely that in the future Japan will draw the greatest part of the supplies for the mills from that source.

Although large quantities of peanuts are raised in Japan, chiefly in China Prefecture, they are usually exported as edible peanuts and are not crushed for the oil contained therein. The supplies for the mills are principally imported from Shantung Province in North China. The import of peanuts is not large, however, and it is not probable that this variety of oil will be expressed to any great extent in Japan, as the large Japanese mill in Tsingtao and the Chin-

ese mills in that city and in Tientsin are capable of filling the demand for the oil.

Castor beans are imported from Newchwang, Tientsin, and Tsingtao, from the South Sea Islands, and from India. The best are those coming from India, while those from North China rank next. Considerable quantities of castor beans are grown in Taiwan and Japan proper, but these are crushed in small hand-power mills to provide oil for domestic consumption. The large power mills expressing oil for export use imported beans almost exclusively.

Perilla seed, which is also called "suza" by the Japanese, is the seed of an Asiatic mint commonly grown in Japan and Korea, whence most of the supply for the local mills comes. Considerable quantities are, however, also imported from China and the Kwantung Leased Territory in Manchuria, principally from Tientsin and Dairen.

Linseed and hempseed are imported in small quantities from China and Manchuria for the mills in Kobe. Although this trade is not large, there is said to be a plentiful supply of these seeds in China, and it is probable that the importation will increase rapidly with the growing demand for oils of all kinds.

The vegetable oil mills in the Kobe consular district have producing capacities varying from 10,000 to 360,000 gallons per month. These mills are nearly all situated on the bay shore or on inlets in order that their supplies, which come almost entirely by sea, may be unloaded from the lighters at the doors of the warehouses. They are chiefly steam plants, although recently electrical installations are being tried. All except one of the mills in this district use the pressure system of expelling the oil, the one exception being a benzine-extraction mill at Imazu near Kobe.

The processes employed under the pressure system do not differ materially from those used in America in extracting similar oils. The material is first crushed between rollers to break up the shells and fibers and then heated for a few minutes by live steam. The cooked and crushed material is measured out, wrapped in China grass, hemp or human hair mats (depending on the fineness of the material and the pressure to be employed), and secured by placing iron hoops around the whole. The cakes thus formed are piled up 10 or 15 high and placed in hydraulic-pressure mills.

The pressure mills used are of various types, from the old hand-power wedge mills to modern hydraulic flat-bed compressors. The favorite mill is the round type hydraulic compressor. This has a bed about 18 inches in diameter, circular in shape, and is used almost entirely for expressing bean, rapeseed, perilla and sesame oils. These mills produce the standard oil cake of this part of the world, weighing about

72 pounds. The percentage of oil extracted at each crushing is rather small, and three or four crushings in the case of some materials, such as copra and peanuts are necessary; but the oil produced is of better quality than that from other types of mills, and does not require much refining.

Rectangular flat-bed type compressors are being installed in many factories for the production of coconut oil. These mills, which are copies of those used for cotton seed crushing in the United States, have beds measuring about 30 by 15 inches. The crushed and cooked copra is placed in human hair or China grass mats, which are piled in the compressor 10 or 12 deep, with a flat-steel plate between each layer. The system is better than that of the round-type compressor, as the cakes are very thin and are easily broken up for further crushing, while a larger percentage of oil is extracted than when the round type is used. The oil is not so pure, however, and requires more refining, and the human hair mats and the machines themselves are rather expensive.

Another mill in common use is the bowl-type compressor. In it the material, after being crushed and cooked, is wrapped in human hair or hemp bags and is bound around tightly with three iron hoops. A large stone shaped like an inverted bowl is then placed on top and the whole put into an ordinary hydraulic press, where the rounded part of the stone is forced down into the material. This machine is used for the final pressing when more than two crushings are needed to extract all the oil possible. As only one bagful of material can be pressed at a time, however, the process is both slow and expensive.

One cotton seed oil mill in Japan, at Kashiwabara, is using the latest type of rotary screw expeller mill purchased in the United States. This machine has shown itself to be efficient, and although it was built to crush cotton seed, it has been used to advantage on perilla seed. It is possible that this mill will eventually become popular in Japan, as it is acquiring a considerable local reputation.

When the benzine extraction process was introduced it was considered superior to the pressure system, and several mills adopted the process. The main features are that the crushed and heated material is combined with benzine, the mixture being placed in large closed retorts and boiled with steam until all the oil is dissolved in the benzine. The mixture is then drained off and the benzine is recovered by a simple process of distillation, while the water and sediment sink to the bottom of the tanks and are drawn off. The principal advantages of the process are that practically all of the oil is extracted from the material and that the residue is in the form of a meal, instead of hard cakes, and therefore is in con-

dition for use as a fertilizer or as cattle food without further treatment.

To offset these advantages, however, it has been found that, although fewer men are required to operate a benzine extraction plant than a pressure plant, labor is higher, owing to the fact that more skilled men are required. The overhead is also considerably higher, as the first cost of a benzine extraction plant is rather large. Other disadvantages are that the flash point of the extracted oil is lower than that of the oil obtained by the pressure system, owing to the benzine remaining in the oil after distillation; and that the process is not adapted to oil seeds other than soya beans, as the loss of the solution is greater with seeds which have a large oil content. At the present time, also, the mills using the benzine process are suffering from the high price of benzine, due to reduced imports from the United States. Efforts to use Japanese benzine have not proved very successful, as it does not have a uniform flash point, and consequently the loss in distillation is very large. Experiments are now being made to substitute carbon bisulphide and other volatile chemicals for benzine.

The filtering as done in the Japanese mills consists of mixing the oil with pulverized oil mill refuse or with cotton seed shell ashes, boiling and filtering in an ordinary filter press or through cloth or paper bags. This clarifies the oil to some extent but does not remove the free fatty acids. The Japanese mills do not make tests for these acids, and hence they can not as a rule, guarantee the quality of the oils produced.

Before the war created the unusual demand for coconut oil very little was produced in Japan, the small amount which was expressed within the country being used for soap making. The output has now increased tremendously, however, and over 50,000 cases are being produced monthly in this district. The oil is not of good quality, containing around 5 per cent of free fatty acids, as compared with the $1\frac{1}{2}$ to 2 per cent in some Japanese and Philippine coconut oils. Owing to the inferior filtering processes employed, the oil is comparatively dark in color. The coconut oil produced in Japan is not classified, although that from other districts which is transshipped here is usually divided into two classes.

Rapeseed oil is largely consumed in Japan, as it is used for cooking, lubrication, burning, and various industrial purposes. There are two grades, crude and refined, the latter usually being called "shirashime" oil. Shirashime is practically the only rapeseed oil exported to the United States in large quantities. It is used there principally for mixing with mineral lubricating oils.

Cotton seed oil, formerly produced only as a cheap

substitute or adulterant for rapeseed oil, is now being expressed for export. Both crude and refined oils are handled, the crude being of a reddish-black color, while the refined resembles bean oil in color. Owing to the lack of adequate refining, however, even the best Japanese cotton seed oil contains around 1 per cent of free fatty acids. The quality of the oil also deteriorates greatly on long ocean voyages, a circumstance which militates somewhat against its production in Japan.

Castor oil is used in Japan in cotton spinning, in the manufacture of artificial leather, as a lubricant, and when refined, as a drug. The war, however, created an unusual demand for the oil as a lubricant for rotary aeroplane motors, and the production has increased accordingly. The supply of castor beans, however, seems to be insufficient to meet the present demand. Some castor oil is imported from China and partly refined in Japan, but the quality is not uniform. It is not graded, usually being bought according to specifications. Oil with a light color and high viscosity brings the highest price.

Bean oil is divided into two classes, according to the method of production. Oil extracted by the benzine process is considered inferior to expressed oil and brings a lower price in the United States, while in European countries the reverse is true. The oil obtained by the pressure process usually contains a higher percentage of water and impurities than that obtained by the benzine process, but in the United States the fact that a small vestige of benzine remains has created a prejudice against oil produced by that method. Bean oil of either variety is usually purchased under specifications covering color, viscosity, water content, fatty-acid content and flash point.

Peanut oil expressed in Japan is considered superior to that produced in China, as the ever-present dust in North China, where most of the peanut oil comes from, gets into the peanuts and oil and is difficult to extract. The crude oil imported from China is usually filtered and refined in Japan before re-exportation.

Perilla oil is a most useful oil not yet well known in the markets of the world. It is used in Japan in the manufacture of paints, paper umbrellas, and generally for the same purposes for which boiled linseed oil is used in the United States. It is claimed that it is superior to the latter for use in paints, and it is possible that the consumption of this oil abroad will increase greatly in the future. Although exportation to the United States has begun recently, the oil produced locally is at present chiefly consumed in Japan. There is only one grade on the market.

In addition to the oils listed above, black mustard oil, "tung" oil, sesame oil, linseed oil, and "tsubaki"

(camelia) oil are produced in small quantities in this district. As the output, however, is small and the oils do not enter extensively into foreign trade, a description of them is omitted.

The vegetable oil industry in Kobe is almost entirely dependent on the Japanese mercantile marine, the principal reason for this being that there are ships to bring the raw materials and to carry away the finished products. Other points in the Far East are closer to the sources of supply and have equally efficient and even cheaper labor, but the lack of shipping facilities has prevented their development as oil-producing centers. The tremendous advantage possessed by Kobe is that it is located in a central position, with adequate shipping facilities, where oil seeds can be brought from North China, Chosen, Siberia, South China, the Philippine Islands, India, and the South Seas. The mills can choose the material which will yield them the greatest profit for the time and are able to keep running almost constantly. The advantages possessed by the Kobe mills, however, are only those due to shipping facilities, and it is a question whether after the war, when there will undoubtedly be an influx of vessels of every nation into these waters, these advantages will continue.

Other factors than the demand for the oils produced and the ability to ship them enter into the success of the mills however. The oil mills must be able to dispose of their oil cake or meal at an advantageous figure in order to make a profit on their operation. There is a steady demand in Japan for oil cake and meal for use as fertilizer in the rice fields, and the mills can readily dispose of their products to the farmers. This is an advantage which is not possessed by all of the oil mills in other districts, where it is necessary sometimes to ship the heavy cake and meal long distances to find a profitable market. However, before the war the price of oil cake occasionally dropped below the point of profitable production, thus causing the mills to close down for a time. It is entirely probable that this will again arise when conditions in the oil industry have become normal again.

While the outlook for the vegetable-oil industry in Kobe, therefore, is not at all discouraging, it would seem that it is now at or near the apex of its development and that post-war conditions will be likely to decrease to a considerable extent the unprecedented prosperity of the local mills.

LARGE FUMIGATING HOUSES.

In connection with the campaign against the pink boll worm on cotton, the Federal Horticultural Board is installing what is said to be the largest fumigating equipment in existence (surpassing even the cotton fumigating plants of Boston) at five towns on the Mexican border of Texas. The largest fumigating house at Laredo, will have a capacity of 15 freight cars. These cars will make possible the fumigation of the exterior and the interior of cars, as well as the contents.—Exchange.

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The food administration in Prussia, true to the character of detailed supervision which Germany has assumed over her people, has gone even further than Great Britain in the control of the hen. Poultry keepers in Prussia must deliver to the government from 25 to 30 eggs for each hen kept, and in many districts this minimum was raised to 50. More recently the Prussian state office has ruled that one hen is to be allowed free for each member of the household, not including prisoners of war.

This reminds us of the story of the small boy whose conduct was such as to merit solitary confinement for a time. His destructive habits were so well known that there seemed no place in which to shut him that did not offer something to be torn up until his mother had the bright idea of shutting him in the chicken house. Just as she was closing the door she heard him say in a low voice, "She can lock me in but she can't make me lay an egg." The Prussian hen may have the same feeling but we venture to say that if she don't lay an egg she will go west before many days.

ANOTHER SOURCE OF CASTOR BEANS.

The excessive demand for castor oil for lubrica-

tion of airship motors has brought to light many obscure locations especially suited for the growing of this plant. The United States Bureau of Commerce publishes the following report from Honduras:

Interest is now being shown in the cultivation of the castor bean in this section. The oil from this plant is in demand for aeroplane lubrication. It grows naturally here, bearing within eight months after planting. Ground suitable for castor bean planting may be cleared at a cost of \$5 to \$6 a plot of 8,100 square yards, with a charge of about \$1 for seeding the same space. This work is usually done on contract, and the figures given are the average price paid for the work. The natives have long extracted oil from their bean crops, and it is found superior in quality to that imported from the United States.

PINK BOLL WORM THRIVES ONLY ON COTTON.

Investigation in Texas by the Federal Horticultural Board has shown no instance of infestation of any plant other than cotton by the pink boll worm. Possibility of such infestation, which would have added to the difficulty of the quarantine and clean-up program in Texas, had been reported by authorities in Egypt. The investigation involved the examination of thousands of alternative food plants, notably okra and hollyhock.

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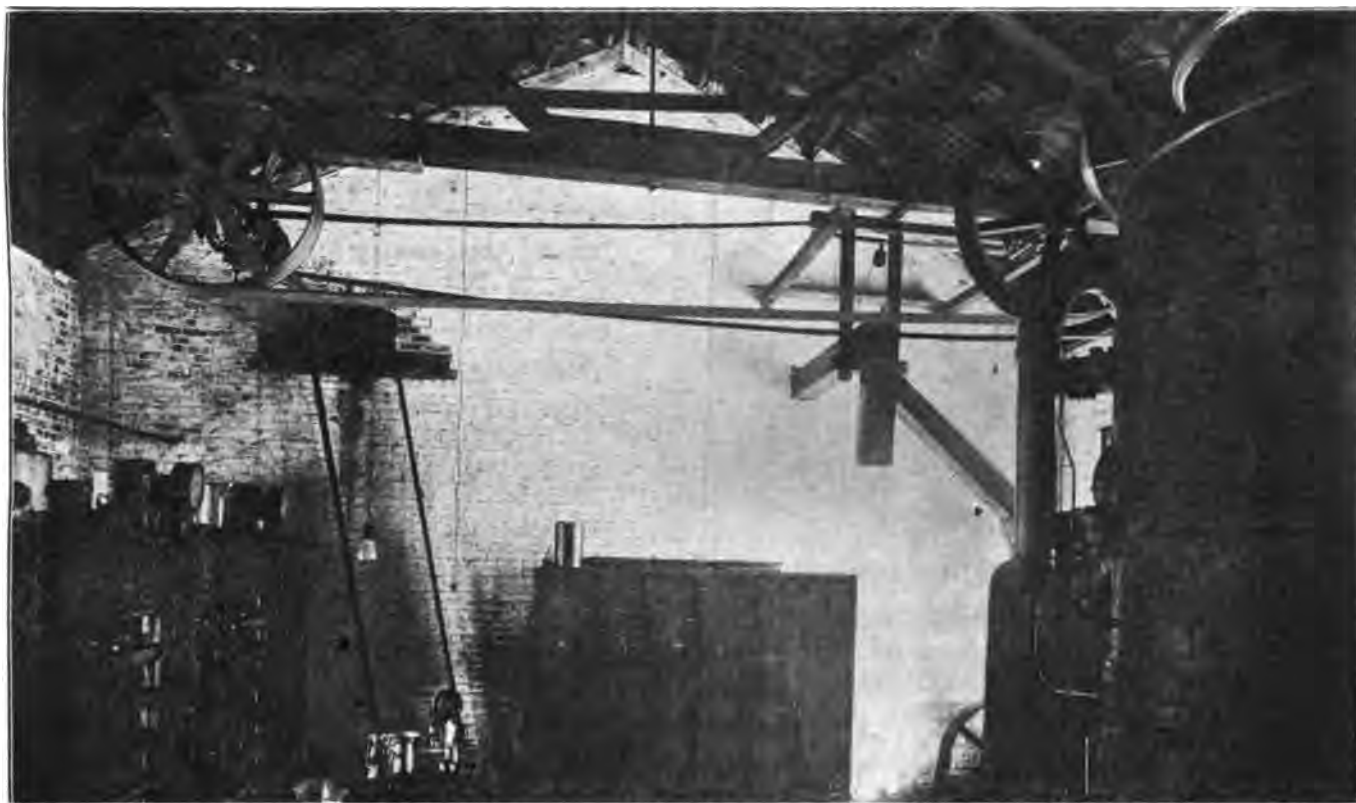
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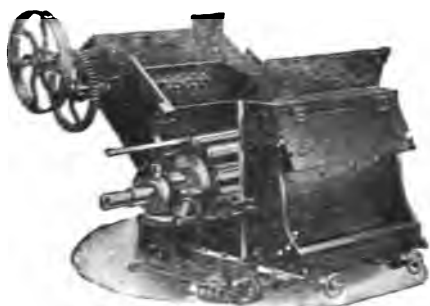
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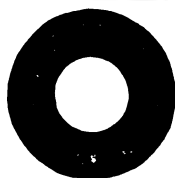
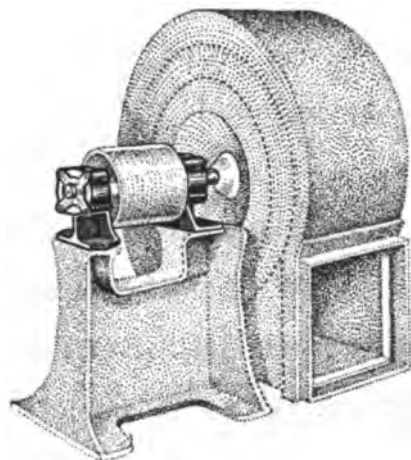
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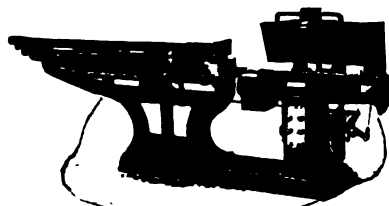
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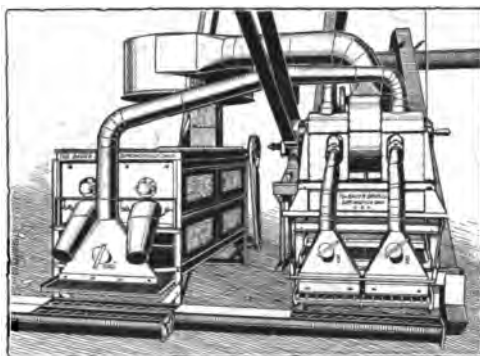
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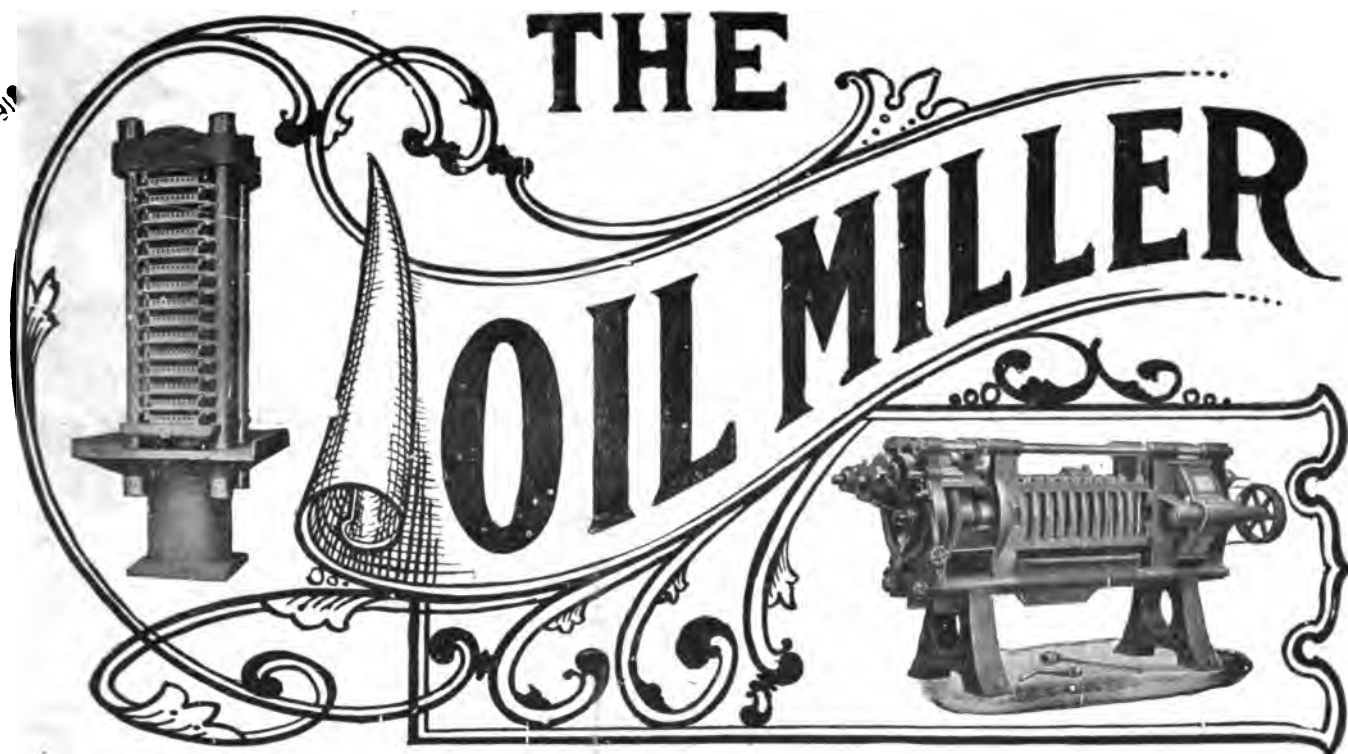
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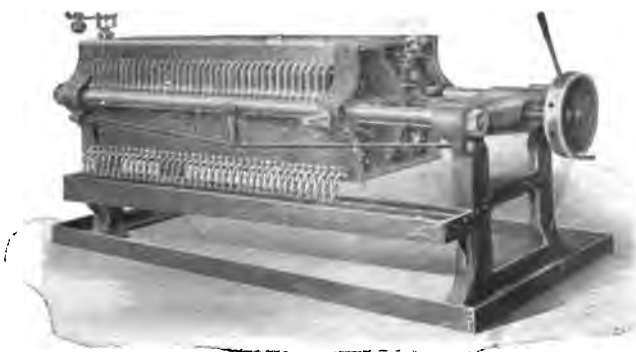
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It is designed to be both efficient and substantial and every Sperry Press is subjected to a rigid joint surface test before it leaves the factory.

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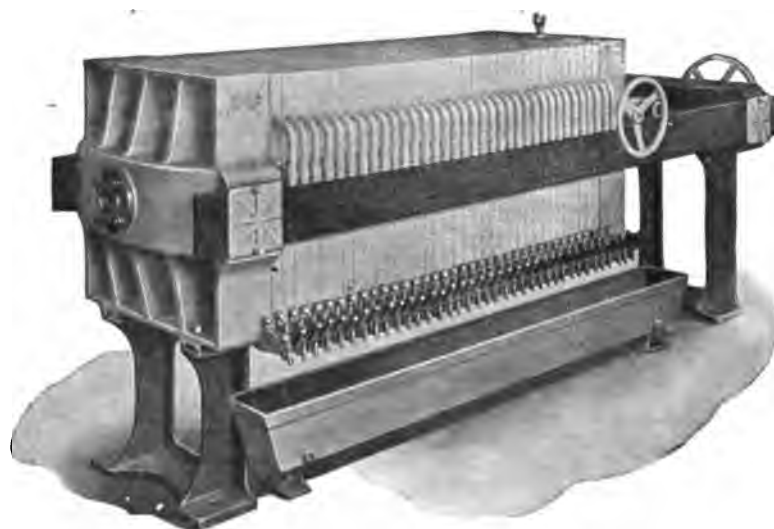
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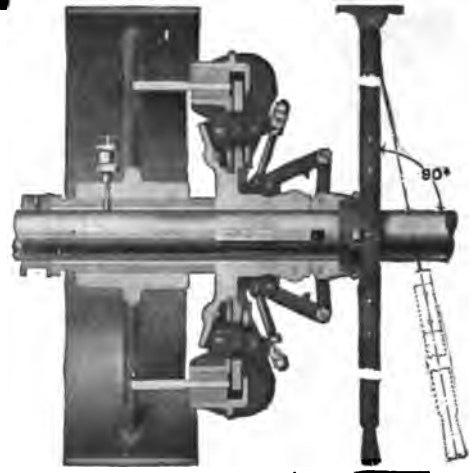


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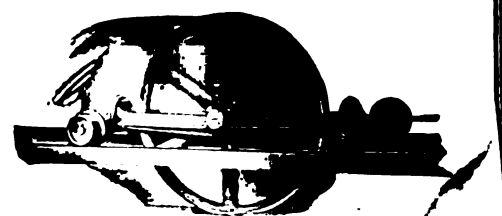
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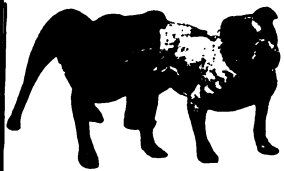
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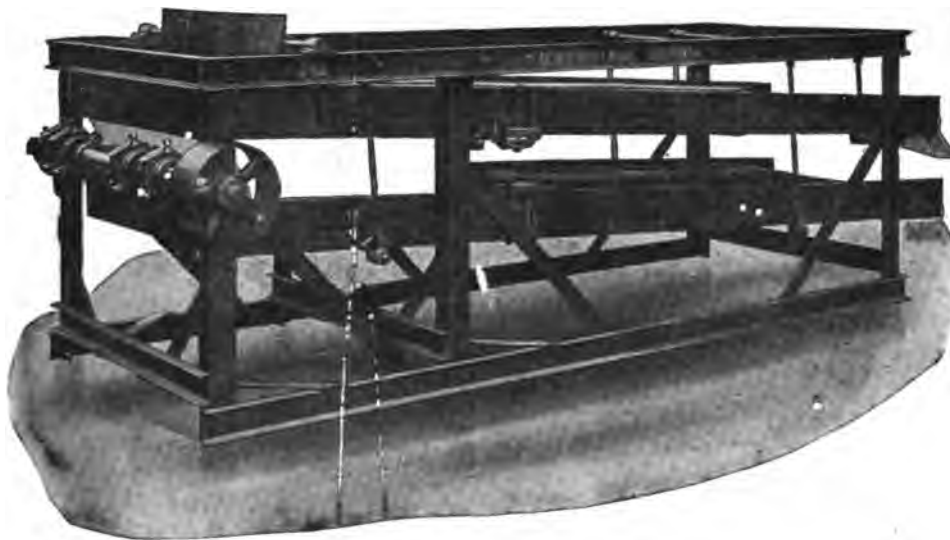


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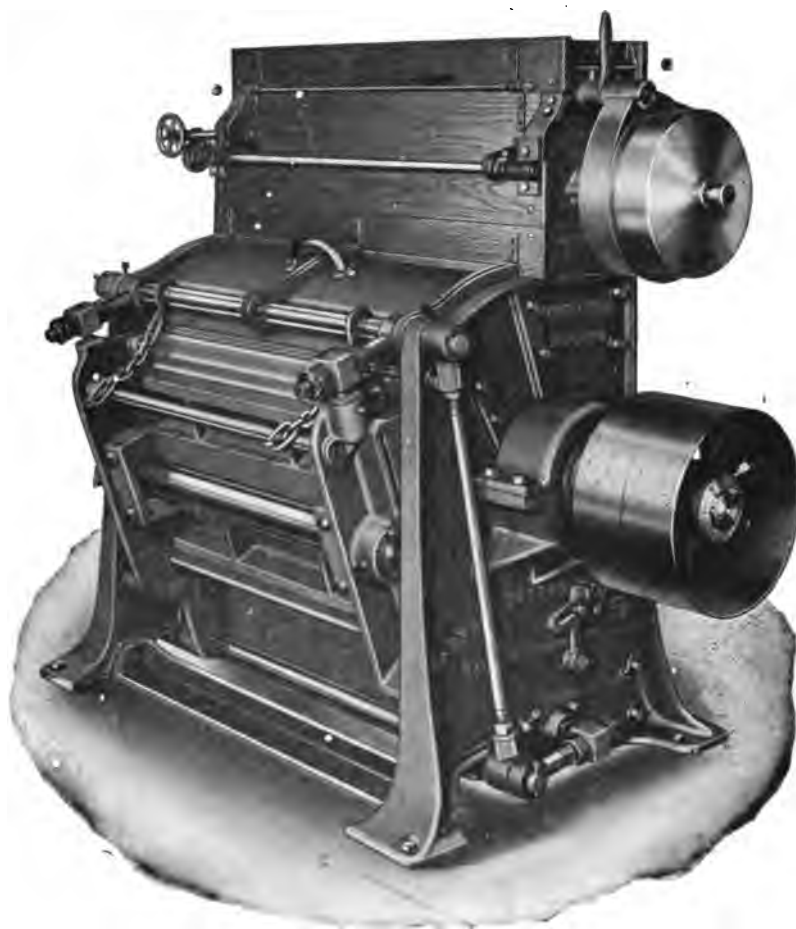
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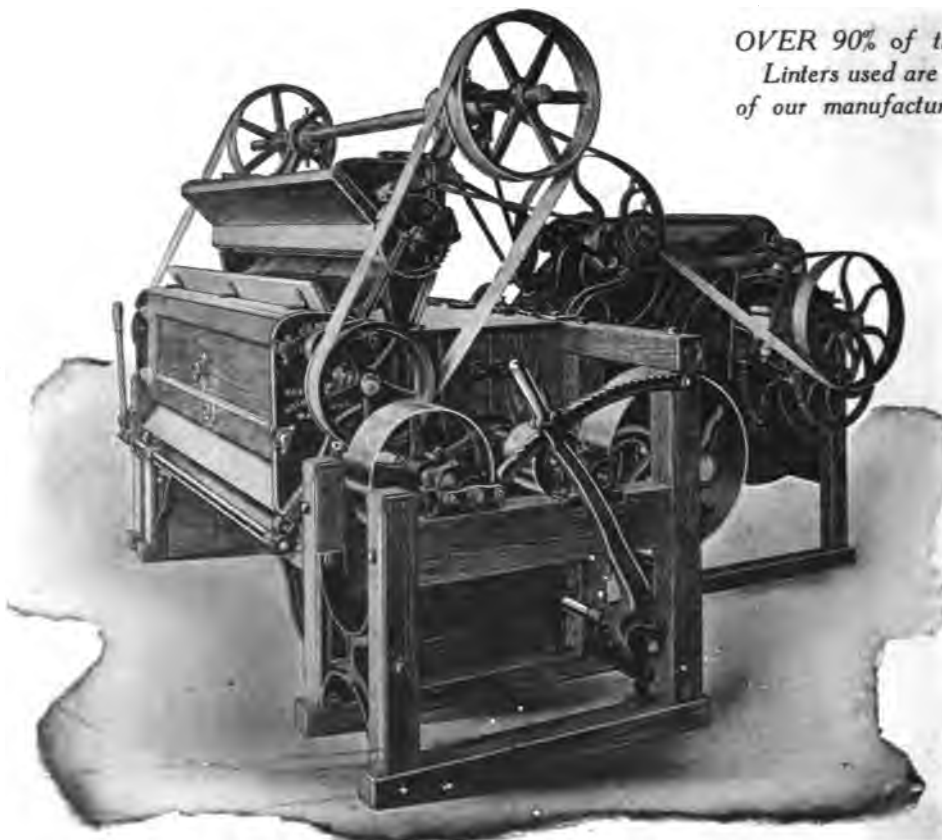
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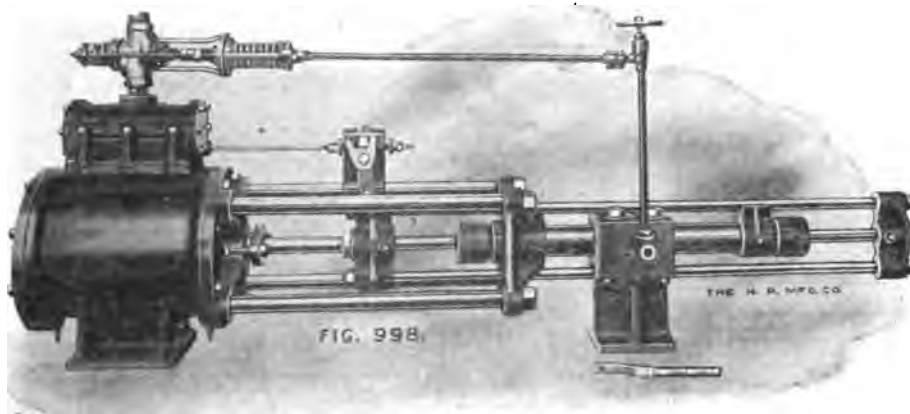
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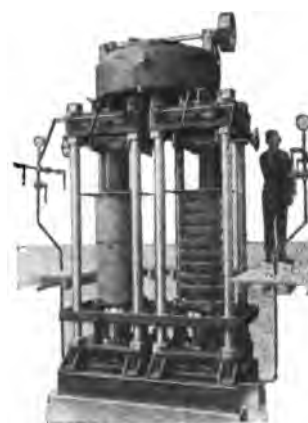


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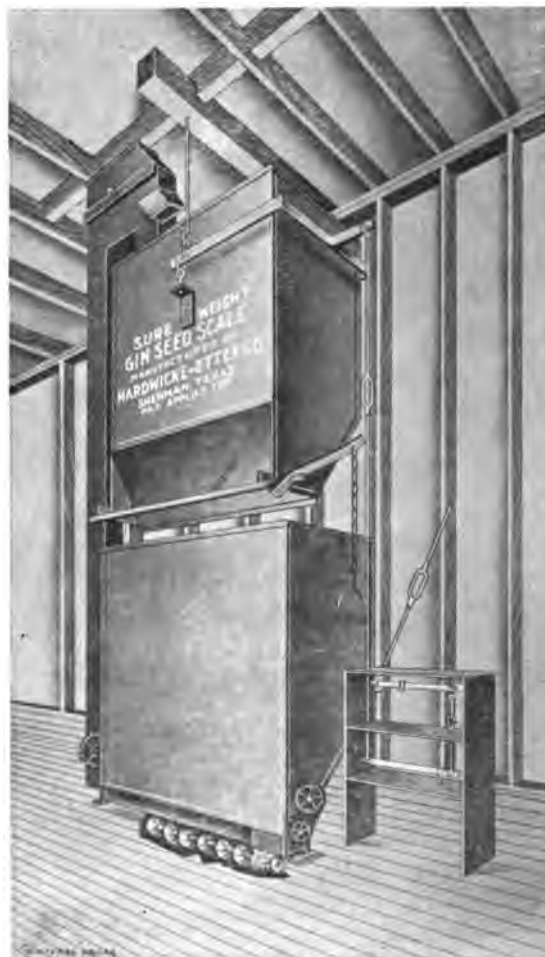
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To so separate the hulls that the meats shall not pass out with them is a problem all cottonseed oil mills have to solve.

Every particle of meats which passes over your shaker and goes out with the hulls is so much oil lost.

A separating room equipped with MONARCH MACHINES will save this loss and help solve your problem.



The Monarch Ball Bearing Double Huller Shaker

This machine not only promotes the closest economy in making a separation of the meats from hulled cotton seed, but is in itself, in point of operating expense, convenience and adaptability, a model of economy.

The sieves are easily removable and are stepped at intervals to give the descending stock an occasional turnover.

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Construction is of steel and iron; making a machine which is both durable and sightly.

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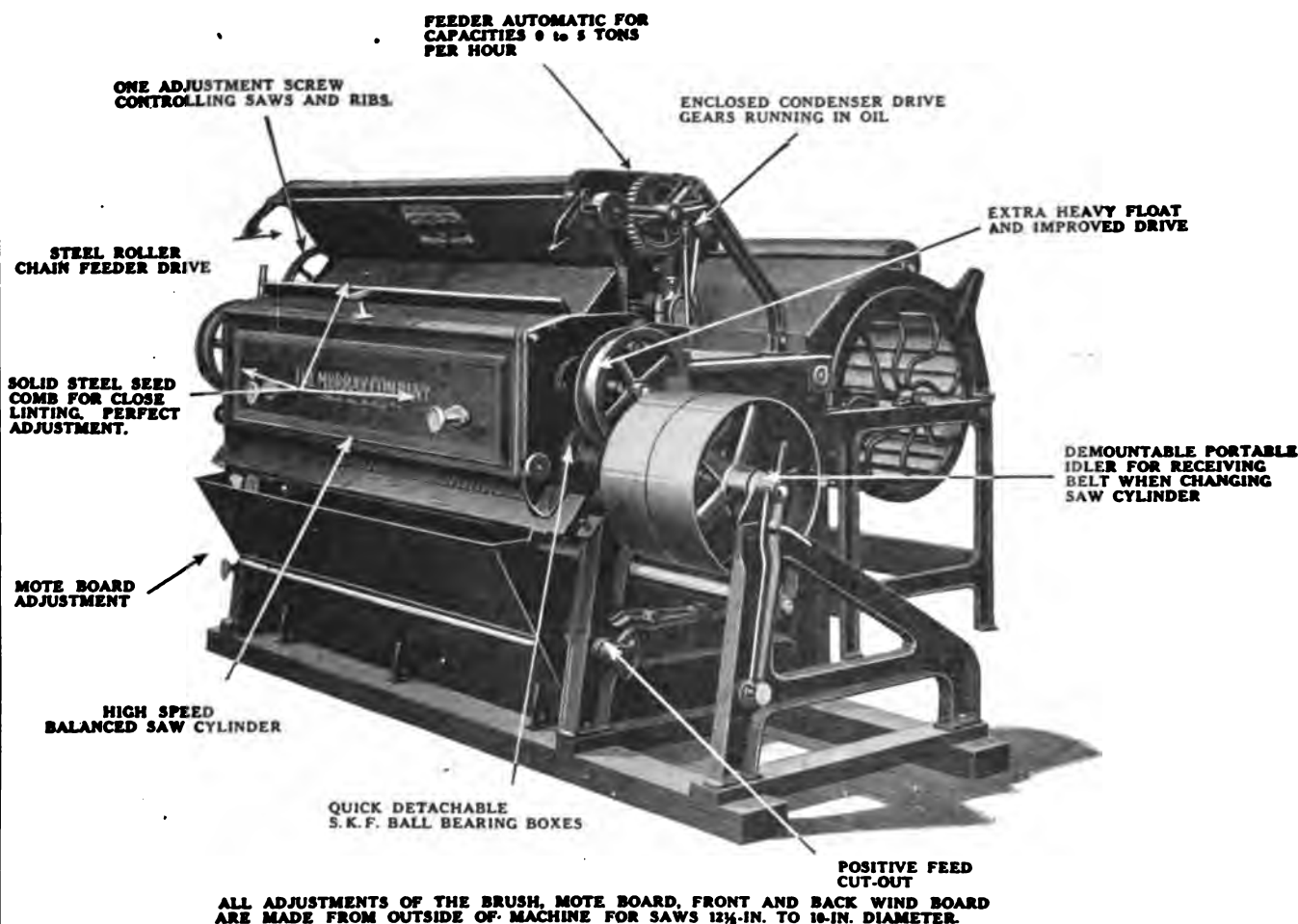
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THE OIL MILLER

OIL FILTRATION NUMBER

Vol. 9.

Atlanta, Ga., December 15, 1918.

No. 4

THE OIL MILLER

OIL MILLER PUBLISHING CO.

MARY R. BURRUSS, Manager.

KATHERINE G. BIRMINGHAM, Editor.

Atlanta, Ga.

Subscription Price: \$1.00 per Year.
Three Years for \$2.00

Address all communications to The Oil Miller,
Empire Bldg., Atlanta, Ga.

Advertising Rates Furnished Upon Application.

Entered as second-class matter March 4th, 1913, at post
office at Atlanta, Ga., under act of March 3rd, 1879.

Official Organ Alabama Cotton Seed Crushers Assn.
Official Organ Arkansas Cotton Seed Crushers Association.
Official Organ Inter-State Oil Mill Superintendents Assn.
Official Organ North Carolina Cotton Seed Crushers Assn.
Official Organ Cotton Seed Crushers Assn. of Georgia.
Official Organ Mississippi Cottonseed Crushers Assn.
Official Organ Louisiana Cotton Seed Crushers Assn.
Official Organ South Carolina Cotton Seed Crushers Assn.

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PEACE AND ITS OBLIGATIONS.

This year for the first time in four years Christmas will dawn on a world of peace. All of us are grateful for this but in our usual American hustling way after the first storm of joy and enthusiasm that the world war is at an end, we are apt to forget that peace brings its obligations too. The aftermath of the war still has its problems to solve. The countries for whom liberation has been won are not yet ready to take up their old every day life. They have to go through years of reconstruction and we, who have been more fortunate than they, still will be called upon to extend a helping hand.

Our business will take some time for readjustment but we must be patient. The true patriot will be revealed through this time of testing.

The business outlook for the oil industry is very favorable. All of the countries abroad will soon be

in the market for quantities far beyond anything we have ever dreamed of. At the meeting of the Interstate Cottonseed Crushers' Association at Memphis recently, the consensus of opinion seemed to be that stabilization of prices for cottonseed and its product ultimately worked to the advantage of those primarily interested. More labor will be available this season.

With a ready market, an easing up of the labor situation and a fixed price advised by the Crushers themselves, the outlook should be an encouraging one.

FILTER FOR HIGH GRADE OIL.

"A good name is more to be desired than great riches," said Solomon. Solomon had both so ought to know. But often times a good name aids in bringing the great riches. So a reputation for supplying high grade oils, oils which are filtered as soon as extracted, will create a demand for your products and increased sales will result. These are days when the world is looking for the best, the best in men and the best in produce. No half methods suffice. Everybody and everything aims to reach the nearest point to perfection.

Cottonseed and peanut oil are in this class. The demand is for the nearest approach to 100% oil that can possibly be obtained. The mills which are widest awake will take heed to this call and see to it that they are equipped to turn out this kind of oil, which can only be secured by filtering and that at the time of extraction.

And as virtue is its own reward, so the reward for the mill owner is to be looked for in the higher prices he can obtain and the growing reputation he secures for producing that which is good—high-grade oil—filtered at the mill.

ANNOUNCEMENT.

There has been added to the editorial staff of The Oil Miller Miss Katherine G. Birmingham, of Hartford, Conn. Miss Birmingham has been connected with large manufacturing interests in New York for a number of years and brings to The Oil Miller a fresh point of view and a fund of knowledge which we believe will be appreciated by our readers. We feel that we have made a decided addition to the personnel of the paper and take pleasure in introducing Miss Birmingham, Editor, to the oil mill public.

PREPARE FOR EXPORT BUSINESS.

In another place in this edition, there appears a very interesting article from the Oil, Paint and Drug Reporter giving Chief Reuter's views on the possibilities of the future export market for vegetable oils. He has made suggestions and through his office as Chief of the Division of Oils and Fats of the U. S. Food Administration is in position to foresee the future of this industry possibly to a greater extent than anyone else.

While at this present minute, there seems to be a surplus of oil on hand, this situation has been somewhat relieved by the authorization to ship 20,000 tons abroad and it is more than likely that this will be followed shortly by a lifting of the embargo on exportation to a greater degree.

It is conceded that there is a market abroad for much of the oil in the United States. All of the European countries, practically, are short of fats and must look to us to help them out. Then too, there is South and Central American markets right at our own door whose trade we should have. The business is there and we who have the product should look after this business which surely in the years to come will not be a decreasing one but increasing to a point which will make it desirable from every point of view.

THE CHEMICAL EXPLANATION OF THE NECESSITY OF OIL FILTRATION

By E. N. Fash, Vice-President, The Fort Worth Laboratories, Fort Worth, Texas.

The deterioration of crude vegetable oils on storing is due to the fact that the enzymes in the oil decompose the oil. This decomposition of the oil produces the free fatty acids with which oil men are familiar. The manner in which the enzymes cause this splitting up of the oil is not known. For that reason, it is customary to classify their action as catalytic. A catalytic agent is one which it is necessary to have present to produce certain chemical reactions but which, so far as we know, does not take part in the reaction, remaining unchanged. While we do not know how enzymes cause oil to split up, we do know by investigation, the conditions necessary so that the enzymes will be most effective. These conditions are moisture, a moderate amount of heat and a certain amount of free acid. In other words, the deterioration of crude vegetable oils is accelerated by the presence of water, a warm temperature and the free acid which the enzyme produces by splitting the oil. As the amount of free acid in the oil increases, the acceleration of the decomposition of the oil increases until the free acid reaches an amount dependent upon conditions, after which the decomposing action of the enzyme becomes less.

Enzymes in scientific jargon are unorganized

ferments, i. e., chemical substances, as distinguished from yeasts which are organized ferments. Enzymes are not yeasts or fungi but are the chemical products of vegetable and animal life. As the product of animal life, enzymes occur in the animal tissues and to preserve animal oils and fats, packers are very careful to remove all animal tissue from them before storing. As the product of vegetable life enzymes occur in the cottonseed meal and to lessen deterioration on storing meal should be kept out of the oil.

With the above explanation it is easy to understand why wet cottonseed deteriorates the oil; why meal must be kept out of storage tanks; why storage tank roofs should not be allowed to leak; why warm weather deteriorates oil.

The present system of settling troughs and tanks is not adequate to put the crude oil in proper condition for storage for any long period of time.

Filtration through a filter press, of the plate and frame type, is cumbersome and slow owing to the mucilaginous substances in the oil quickly clogging up the filter cloths. A centrifugal process, we believe would be more practical. We have had the matter up with a manufacturer of centrifugal machines and he advised us he would go in to the subject shortly and advise us.

FILTRATION

By N. Musher, President, Musher & Company, Washington, D. C.

Filtration for the purpose of removing foreign matter from oil is different from filtration to remove the moisture from oil.

We find that oil, whether it be olive, peanut, sesame or cottonseed, should be well filtered—first for foreign matter, and then for moisture. The moisture filtration is a different filtration altogether from the foreign matter filtration.

The less moisture oil will contain, the longer will be its keeping qualities. The same is, of course, also true as to foreign matter—the less foreign matter an oil contains, the longer the keeping qualities will be.

We are speaking now only from the keeping quality standpoint, and for virgin pressed oils that have not gone through any refining process; but even the oils that have gone through a refining process can be greatly improved by proper filtration.

We find that the proper filtration for foreign matter is to use a French filter paper, and the proper filtration for moisture is plain, good cotton. The cotton absorbs all of the moisture and the oil flows freely through, leaving the moisture behind. All of our oils go through this moisture filtration first, and then through the foreign matter filtration afterwards.

THE FILTER PRESS AND FILTER PRESSING.

By D. B. Sperry, Batavia Illinois.

What The Filter Press is Used For.

The filter press is used by producers of peanut, cocoanut, cotton and other crude oils in order to produce a finished product which will bring the highest price from the refiners. The use of the filter press in the oil mill is not a matter of personal opinion but is really one of business necessity.

The producer of crude oils can, by use of the filter press so improve the character of his product that the increased price which he can obtain from the refiners not only pays for the use and operation of the filter press but brings in a handsome rate on the investment.

There are undoubtedly oil mills all over the country who do not use the filter press at this time, this being the case only because they are not aware of the benefits therefrom on the one hand and are not conversant with the filter press as a machine on the other hand.

The purpose of this article is to acquaint the owners and superintendents of oil mills with what the filter press really is and how it is used.

What The Filter Press Looks Like.

In Fig. 1 is shown a cut of a filter press such as is used in oil mills. It will be noted that this apparatus is very simple being substantially a screw press which holds together a number of cast iron plates or leaves. The filter press as shown can be operated by the cheapest kind of labor and can be operated as a matter of routine and does not require skilled labor of any kind. The crude oil from the presses is pumped into the end of the filter press which is opposite the screw closing end and issues from the cocks placed on the corner of each plate and flows into the cast iron gutter into the finished

**Fig. 1.**

product tank. In other words, the crude oil enters the filter press cloudy and leaves crystal-clear.

Filter Plates.

If the filter press shown in Fig. 1 were opened; that is, the screw loosened, the slide head pulled back and one of the plates removed, it would appear as that shown in Fig. 2. This plate is made of solid cast iron and the surface is grooved radially each groove leading to an outlet corner. The hole in

**Fig. 2.**

the plate is the feed entrance and the hexagonal shaped lock nut therein is called a grommet. The cock in the lower corner is equipped with a swivel so that the oil can be diverted to one side and the other of the double gutter. The plate is held in the filter press by the handles on either side. These rest on the top of the steel bars and the plate can be slipped on the bars in order to permit access when the press is opened.

Principal of The Filter Press.

The work which the filter press really performs



in the oil mill is to force the crude oil under pressure through canvas cloths. In certain oils there are substances which must be mixed therewith but in others cloth alone suffices.

In setting up the filter presses a cloth is cut having a width about equal to that of the plate and the length about twice as long as the plate. This cloth is thrown over the top of each plate and holes are cut therein where they overlap the feed inlet in the upper corner. The lock nut or grommet, which was previously unscrewed from the plate, is then screwed in the hole in such a manner as to hold the cloth tightly around the edge of the hole. When all the plates have been thus clothed and a cloth placed over each of the heads of the press, and they are placed together in the press, and the center screw is tightened, oil is then pumped into the head of the press opposite the screw end. The oil must pass through the cloths out of the cocks and into the gutter.

The action of the filter press is better illustrated by reference to Fig. 3 which is a cross-section through the fixed head of the filter press and three of the plates. The upper arrow shows the course of the crude oil while the four small arrows at the

bottom show where the cocks are located and the direction of the flow of the clarified oil. Careful study of this cut will show the position assumed by the cloths.

The finished outer margin of the plates when squeezed together with the cloths between produces almost a tight joint. The crude oil after it enters the press runs the length of the feed channel, which is formed by the grommets, and drops into the spaces between the cloths which are called chambers. Plainly, the only way the oil can leave the press is by going through the cloth, against the radial grooved surface of the plates, directly to the cock placed at the confluence of the grooves.

It sometimes happens in the filtration of various crude oils that instead of filtering through canvas alone, it is desirable that it be through paper. In such a case, the paper is placed over the cloth. Sometimes five or six thicknesses of paper are placed over each cloth surface and the outer one removed each time the press is opened. When paper

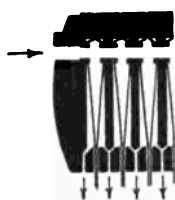


Fig. 3.

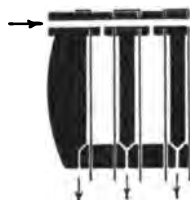


Fig. 4.

is used, the recessed type of plate, such as we have already described, is impractical owing to the fact that the bend which occurs about the edges will break the paper. In a case of this sort, a filter press having flush plates and frames is used. In Fig. 4 a cross-section through such a filter press is shown. Here the plates instead of having recessed surfaces are substantially flush; that is, the finished margins are approximately level with the tops of the grooves. These plates do not have grommets as is the case with recessed plates but have an eye in the upper corner. This eye is surrounded by metal and is finished off with the outer margin. These plates are clothed in the same manner as the recessed plate is clothed, holes being cut in the cloth where they cover the feed eye. The plates are then placed in the filter press and between them are put frames which consist substantially of a plate without the center panel. These frames have an eye which registers with the eyes in the plates and in addition have a connection from the eye to the interior of the frame. When the press is set up a cross-section is substantially as that shown in Fig. 4. The eyes on the plates and frames register each other; hence, when the crude oil is fed into the press it runs the length of the channel thus formed and enters the interior of each frame. Inasmuch as the frame is bounded on each side by the cloths which are placed

over the plates, the oil can not leave the press except by going through the cloth, or cloth and paper, against the surface of the plate and out the cocks.

The flush type of plate and frame filter press is sometimes preferred by oil mills and it is claimed that the life of the cloths is greater due to the fact that they are not subjected to the strain caused by the recess in the plates.

There are a great many types of plate surfaces on the market. In general, these may be divided into three kinds; namely, radial grooved, parallel grooved and pyramid surface. The first type of surface is doubtless the most practical inasmuch as each groove leads the filtrate directly to the outlet and the grooves are so disposed as to produce wear on the cloths to a minimum.

The parallel grooved plate is next in point of desirability but it does not lead the filtrate directly to the outlet.

The third type of surface, the pyramid, is substantially the same as the parallel surface except that it has a system of grooves at right angles to each other. While this increases the cloth surface not in contact with metal, the fact should not be lost sight of that the cloth has but one-half as much bearing surface and is therefore subject to greater wear.

Filter Press Cocks.

The filter press cock is a very important part of the filter press. If ordinary cocks are placed on each plate, the area through the cocks is often very much restricted; that is, a one-half inch cock very frequently has an opening only about $\frac{1}{4}$ in. If in the process of filtration in the filter press the clarified oil can not be removed from the filter press surfaces as fast as it enters, there is necessarily a pressure built up between the plate surface and the filter cloths which causes leakage.

The ideal filter press cock should have a maximum area and cross-section, should be tight at seventy-five to one hundred pounds pressure, and should have its valve or plug so designed that it can be completely opened or completely shut without turning the handle through 90 degrees. It should be noted that cocks on the filter press are very close together and if provisions are not especially made the levers or handles will interfere with each other. By having a very small opening and closing angle, this can be obviated.

In the very latest development of the filter press a double gutter is used in conjunction with a special cock. Such cocks are shown in Figures 5 and 6. These cocks are arranged so that they can be made to discharge into either side of the double gutter. It is a well known fact that the first runnings from a filter press are slightly cloudy. These first runnings are caused to flow into a side of a double gutter which conveys this cloudy material

back to the crude supply tank. As the filtrate clears up the cocks are caused to discharge to the other side of the gutter which conveys the clear material to the finished product tank.

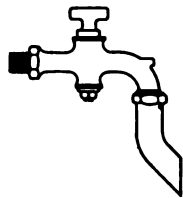


Fig. 5.

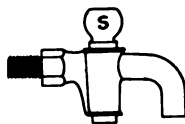


Fig. 6.

The cock shown in Fig. 5 is fitted with a swivel and can be rotated through an angle of 180 degrees, thereby discharging into one side or the other of the double gutter as desired. In Fig. 6 is shown a patented two-way cock. One position of the plug causes the oil to discharge through the bibb; another position causes it to discharge it not through the bibb, but through the bottom of the plug while still another position closes both the outlets. By this cock, discharge can be made into either side of the double gutter as desired.

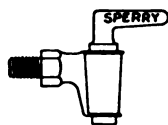


Fig. 7.

A single cock is shown in Fig. 7. This has a large area of cross-section and will therefore carry off a large amount of filtrate and discharge through the bottom of the plug. This plug is made of generous proportions and the inlet to the plug consists of a long and narrow slot. The narrowness of the slot permits complete opening or complete closing with a very small angular movement of the lever handle.

How The Filter Press May Be Connected in The Oil Mill.

In Fig. 8 is shown a filter press installation. The pump is shown on a level with the crude and filtering oil tanks. This pump is connected to the filter press on one side and to the crude oil tank on the suction side. The connection to the filter press runs to a relief valve which is set at a predetermined maximum pressure. If the relief valve opens, the excess material flows into pipe "A" and finds its way back to the crude tank. So long as this maximum pressure is not reached, it passes into the filter press. In "B" is shown a vertical check valve which is not absolutely necessary but is sometimes used.

The material as it issues from the cocks passes into the gutter "K." One side of this gutter runs into a Tee at "E." Into this side of the gutter the cloudy material running from the cock is diverted. This finds its way back to the crude tank through pipe "A." The clear material is discharged from the cocks into the other side of the gutter which is piped to the filtered oil tank through pipe "G." The floor pan is connected by pipe "F" to pipe "A" and drains back to the crude tank.

There are of course many ways to connect a filter press in an oil mill. It is not necessary to use two floors but if a new mill is laid out it is advisable to take advantage of gravity. A steam pump does not have to be used. A centrifugal pump is sometimes used or power pumps may be employed. Generally speaking, the duplex steam pump is the most satisfactory inasmuch as the steam supply thereto is very easily controlled by a valve which can be placed near the filter press. A pump operating a filter press should have some means of speed control such as the steam pump offers.

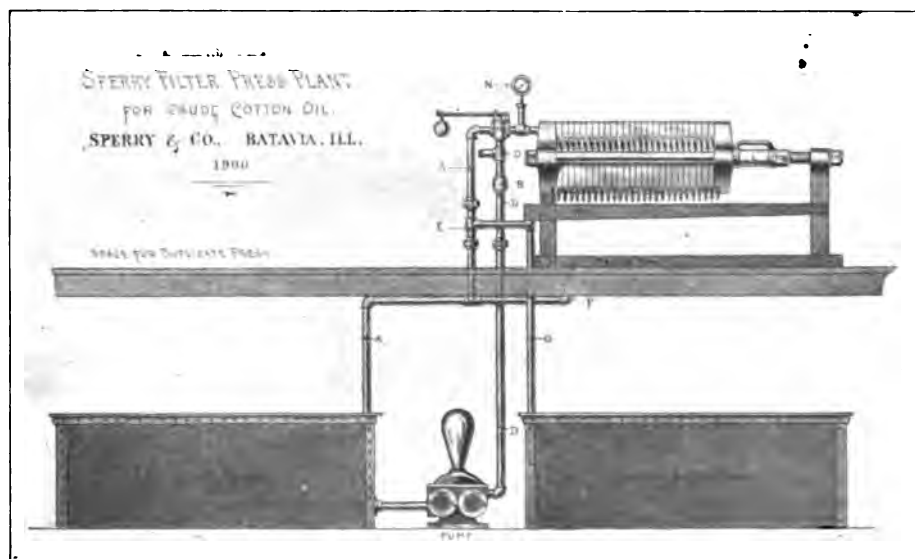


Fig. 8.

FILTRATION.

**By H. Schlessstein, Vice-President,
Acme Sales Corporation.
Corporation.**

All fats and oils, no matter by what process they have been manufactured, contain a certain amount of foreign matter, of gelatinous, resinous, and generally speaking, organic origin, which makes them, as a rule, unfit for the purposes for which they are intended, without previous treatment. The simplest process of refining these Crude Oils consists in the removal of the mechanical impurities, and therefore this is also the oldest known process of refining oils.

The removing of these mechanical impurities, consisting mostly of parts of the Seed Tissue, was attained originally simply by letting these impurities settle out by the law of Specific Gravity, and draw the clear oil off at the top of the containers.

There have been found, in Egyptian Pyramids and in the ruins of Babylon, large clay pots that formerly contained Olive Oil, which was stored and submitted to a process of self-purification. There has been comparatively little change in this matter of handling oils for a few thousand years, showing again how slowly humanity is progressing, because even until a comparatively short time, say 30 or 40 years ago, this process of settling out impurities was nearly exclusively used by Oil Mills. Oils were sold as "Well Settled," or under similar denominations.

Of course, it is evident that this process of purification is not very satisfactory for the big factories manufacturing vegetable oils, because not only did it take a very long time to obtain a clear oil which meant a big investment of money in merchandise, but at the same time the quality of the oils suffers by this method of handling, such as will be explained in a later paragraph.

It therefore was attempted to develop a process which would take the place of the older methods, and crude filters were constructed. They consisted, at the beginning, of simple cloth bags which were attached to a frame, and through which the oil would run. Sometimes 20, 30 and 40 such bags were attached to one frame, and the passing of the oil through the filters was caused exclusively by the weight of the oil. This simple device, although it eliminated the bulk of the impurities, would not work very satisfactorily in the long run, requiring continuous attending, and having a limited capacity. Therefore, other constructions were adopted.

Another type of filter press was manufactured by Delos, in Lille, France, which consists of wooden frames containing at the bottom, small pipes, and which were covered with envelopes made from filter cloth. These frames with envelopes of filter cloth, were put in a container, and the oil would, by its

own weight, penetrate into the inner part of the frames and be drawn off through the pipes. However, these filters were not satisfactory either, because the pressure effected by the own weight of the oil is very small.

From this construction to the building of the modern filter presses was only a comparatively short step. These modern filter presses consist of filter plates, and usually also of frames constructed such as shown in illustration No. 1. There are hundreds of different constructions which vary in details, but all are founded on the same fundamental principles. The frames and filter plates which are covered with filtering cloth are pressed close together by a screw arrangement, and form closed chambers. The oil to be filtered enters at one end and passes through the filtering cloth into the inner recess of the filter plate, from where it runs off through small faucets. It depends on the nature of the filtered material, whether frames are necessary or not. The frames have only the purpose of enlarging the space between the plates in order to give more room for the cake. Therefore, if oils with a high amount of impurities

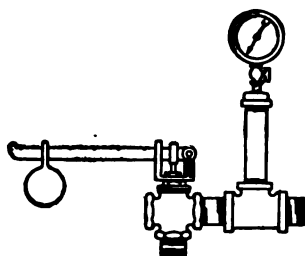


No. 1.

are filtered, such as oils that have been bleached with Fullers Earth, filter presses with frames are preferable. In case the filtering should only remove a small amount of impurities, these frames are not necessary.

There are a number of different constructions affecting the screw arrangement, which holds the filter press together, and also different constructions as regards the headpiece. Sometimes this is mounted on small rolls, especially if the filter is of large construction, and the head-piece is very heavy. This is not necessary if the filters are small, because then the head-piece can be easily moved on the oil covered side beams. The filter plates are usually square, but there are also some round constructions in use, which, however, have no special advantage, and which require a filter cloth that is more difficult to manufacture. The oil enters the filter press, is under pressure usually through a small pump, but sometimes a storage reservoir is placed sufficiently high enough to give pressure by its own weight.

Illustration No. 2 shows an arrangement of head connections for a filter press for filtering oil. The nipple, which is in the lower left hand corner, is attached to the feed inlet of the filter press head, while the nipple in the bottom of the cut under the relief valve, runs to the pump. The opening on the right hand side of the relief valve is piped back to the crude supply tank. When the pressure on the feed line reaches a point greater than that for which the relief valve is set, the valve opens and the material, which relieves the pressure, is discharged through the right hand opening of the relief valve and flows back to the crude supply tank. The pressure gauge is mounted above a nipple with a cap. This pro-



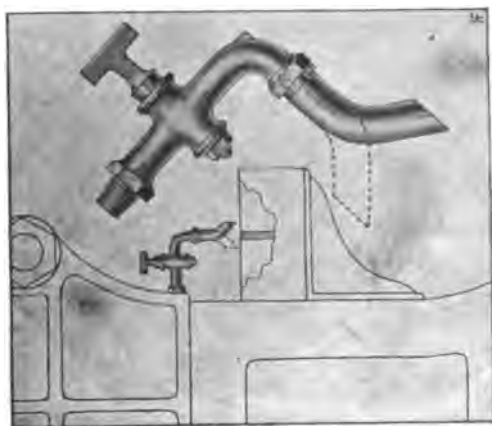
No. 2.

vides an air cushion and reduces the pulsating effect caused by the pump strokes.

The filter cloth used on these presses consists either of cotton, wool or metal, and also sometimes an extra paper cover is added.

At the beginning of the filtering, the oil does not run clear at once, but it will require a few minutes time until the fine pores in the filter cloth have been closed by impurities, and the oil begins to run clear.

Illustration No. 3 shows a special filter press cock which is provided with a swivel bibb. It is so placed on the filter press that by rotating the bibb through 180 degrees, the flow from the cock can be diverged to either side of the double gutter at will. By this arrangement, the first cloudy runnings are not allowed to contaminate the filtered product tank, but instead are caused to flow into a side of the double gutter which is piped back to the crude supply tank. When the cock begins to discharge clear oil, it is caused to flow into the other side of the double gutter

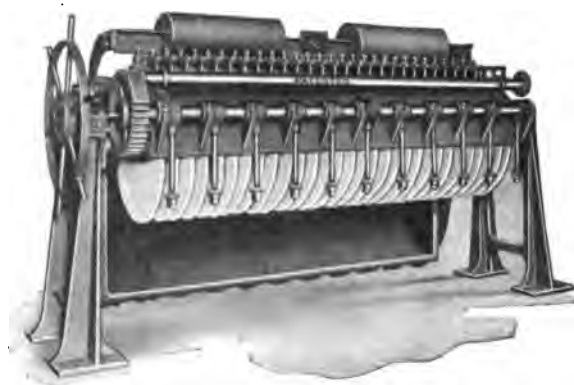


No. 3.

which is piped to the finished product tank. This arrangement is found to be very valuable in filtration, because it often happens that one plate will continue to run cloudy for a longer time, on account of contamination of the filter cloth, while all the other plates are running clear, and in this case, all the clear oil can be separated from the start.

In order to be able to filter oils and fats with a high melting point, filters are sometimes used, of which the plates can be heated by steam.

A rather new construction of filter presses is one which for the past years has been used mostly for sugar factories, but now also has been adopted to oil factories. This press is shown on illustration No. 4.



No. 4.

The press consists of a body which is cylindrical in form divided on horizontal center lines into two halves. The joint forming surfaces form a water tight joint between the two halves when the machine is closed. The two halves of the filter body are hinged together. In the inside of the press a number of filter leaves is arranged, which consist of a circular plate of heavy wire screen, which is bound at the edge with a U shaped peripheral ring, giving stiffness to the leaf, and binding the edge of the wire screen. The whole leaf is covered with a filter cloth manufactured usually of metal. The principle of operation of these filter presses is to deposit the Solids in even layers upon the surface of filter leaves, and not in a chamber.

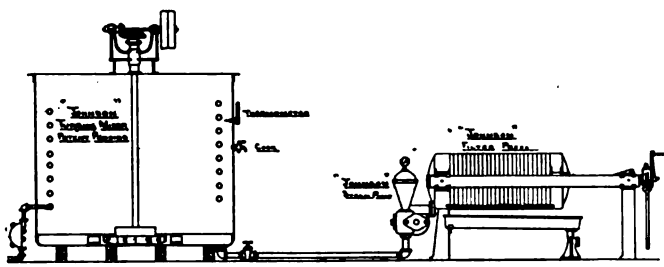
The method of cleaning these filters is by swinging the filter open and reverse the current through the filter leaves, that is by turning compressed air or steam through the filter leaves which pass through the pores of the cloth, dislodges the cake, and causes it to fall underneath the filter.

There are so many constructions of filter presses, that it would be carried too far to describe all of them. However, the purpose of all is to clean the oil of impurities, and effect an improvement in quality.

It should be recommended that crude oil, as soon as it leaves the presses or expellers, should be filtered

at once before being removed into the storage tanks. It is a well known fact, that vegetable matter from the seed tissue, has a tendency to decompose the oil to a smaller or larger extent, depending on the kind of seed. In some cases, for instance, with Palm Oil, this decomposing effect of the vegetable matter is very great, and will decompose the oil entirely into fatty acids and glycerine within a certain length of time.

With other seeds, such as Peanuts, the decomposing effect of the vegetable tissue will be less marked, but always exists, and also a darkening of color in many cases is to be observed. This is caused by the leaching out effect of the oil on the vegetable tissues, which contains usually some coloring matter. Also in other cases, for instance, after oil has been treated with Fullers Earth or refined in other ways, it should be necessary to filter same quickly after the treatment is complete. Illustration No. 5 shows



No. 5.

a practical arrangement of refining kettle and filter-press. This fact has been recognized by the Japanese Oil manufacturers, and therefore all Japanese oils which are imported in this country are filtered. The oil is often sold on a fatty acid guarantee, and if an unfiltered oil would be shipped, the shipper would always have an entirely different fatty acid analysis than the party in this country which receives the oil. Also, the larger number of progressive domestic oil manufacturers are now filtering their oil immediately after obtaining same from the presses.

TO FILTER OR NOT TO FILTER.

By Lehman Johnson, Cotton Seed Specialist.

In the hottest days of the fighting in France, there was scarcely a report from the front that did not speak of our boys filtering. The Argonne Forest was the filter press and our soldiers the filtrate—SOME filtrate they were, too, as the Huns found out.

Evidently then filtering is a modern, up-to-date and successful operation. It gets results.

Why, then don't our oil mills filter?

Filtering crude cotton oil certainly gets results if rightly done when the oil is still hot and a finely divided dry material, preferably cotton seed hull

bran, is used in the oil to make a cake in the press.

The results had are (1) Removal of moisture and foots, protein or ammonia material good for food or fertilizer at the mill, worse than valueless in the oil at the refinery.

(2) The crude oil will now "keep" perfectly if excluded from light and air, put immediately in tanks such as are used for kerosene.

(3) The refining loss is less, the refined oil sweeter and if from sound seed, not exposed to the air any where along the line, the expensive process of deodorizing is unnecessary to make an entirely satisfactory frying oil.

(4) The weight of the crude oil is reduced by the weight of moisture and settlings removed.

This last answers the question why in spite of all the good results and of the economies effected the oil mills do not filter; for according to the custom of the trade, though docked by the refiners for loss in refining exceeding 9 per cent., there is no premium for making the oil any better than this.

If oil is 17 1/2 cents a pound, the mill loses not only its trouble but 17 1/2 cents in cold cash for every pound of matter removed by filtering.

I used to preach filtering in season and out of season to every oil mill I visited years ago until on one occasion I was answered by a hard headed old mill man after this fashion: "What you say about improving the oil is true. It makes better cooking oil and compound lard. It is better for the customers but I sell crude oil by weight and I don't get paid for what I take out of the oil. I do get paid for what I leave in. Johnson, you are in the missionary business. I am in the oil business."

There you are. Until the refiners learn enough of real patriotism, real economics and real fair play with their fellows by adopting a give and take refining loss basis for the purchase of crude cotton oil, it is not going to be filtered or taken care of as it should be and this great waste is going to continue.

It is a curious thing to me that cotton oil companies that make and refine their own crude oil do not filter, but when I reflect that their chemists who control or direct the work of their crude oil mills, also control the refining end of the business and are deeply enamored of the elaborate process of bleaching and deodorizing, claiming to be able to remove the damage incurred by the oil at the mill, I am not much surprised. Why should the physician who was a crackerjack at curing fits learn to cure other diseases when he could almost as easily throw any patient into fits as these refining chemists can throw any kind of crude oil into the deodorizing tank.

This isn't a sermon. It's an analysis.

TEXAS AND THE SOUTHWEST

(Donald Lowrie, Dallas, Tex., Special Correspondent for Oil Miller)

OIL FILTRATION IN TEXAS MILLS.

Comparatively few of the cottonseed oil mills in Texas refine their own product, although among those that do there are several which buy crude oil, and some that make compound lard. Among the mills where oil is filtered mention may be made of the Abilene Cotton Oil Company, Abilene; Interstate Cotton Oil Company, Sherman; Dallas Oil and Refining Company, Dallas; Forney Cotton Oil Company, Forney; Terrell Cotton Oil Company, Terrell; Southland Cotton Oil Company, Paris; Trinity Cotton Oil Company, Dallas; Magnolia Cotton Oil Company, Houston; Texas Refining Company, Greenville; Armstrong Packing Company, Dallas, and the Dallas Oil and Refining Company. The mills that buy crude oil are, Interstate Cotton Oil Company, Sherman; Trinity Cotton Oil Company, Houston; Texas Refining Company, Greenville, and the Armstrong Packing Company and Dallas Oil and Refining Company, of Dallas. Compound lard is made by the Magnolia Cotton Oil Company, of Houston; Trinity Cotton Oil Company, of Dallas; Interstate Cotton Oil Company, of Sherman, and the Texas Refining Company, at Greenville.

NEWS NOTES.

Ed Woodall, manager of the Hill Cotton Oil Company, Hillsboro, Texas, when in Dallas recently, stated that the salvage of seed from the 1300 tons that passed through the fire at Italy (Texas), October 4, amounted to 1,000 tons, leaving the actual loss in seed but 300 tons.

Reports from San Antonio are that the South Texas castor bean harvest is being received at that point in carload lots, and is being crushed there for the oil. The growers are receiving about \$4.50 a bushel, which means a handsome profit. The crushing operations at San Antonio were inaugurated by the Government authorities.

Fire recently caused a loss of \$4,000 at the cotton gin of Joe Edwards, at Tyler, Texas.

The loss sustained by the Planters Cotton Oil Mill at Waxahachie, Texas, in the recent floods following the very heavy rains, has been estimated to be between \$40,000 and \$50,000.

E. L. Kellie, Jasper, Texas, is preparing to operate a cottonseed mill and will also crush peanuts.

TEXAS CRUSHERS

FAVOR FEDERAL CONTROL.

Adam Colhoun of the Texas Cotton Seed Crushers' Association, on his return to Dallas from the gathering of the Interstate Cotton Seed Crushers' Association at Memphis during the week ended November 16, stated that cotton seed crushers are working together with a view to retaining some sort of Government regulation of the seed crushing business when the signing of the articles of peace shall bring an end to the Food Administration and its standards as applied to the crushing of cotton seed.

It was the consensus of opinion at the meeting, said Mr. Colhoun, that the cotton seed crushing industry during the last two seasons, under Government control, though not permitting large profits, has been devoid of speculation and of hoarding, and has therefore had less worry and vexation. These advantages are of sufficient weight to cause many crushers to favor a continuation of Government regulation even after abnormal conditions due to the war have disappeared. It is hoped to work out some plan of control under the Department of Agriculture and Commerce.

Among the Texans who attended the Memphis meeting were President R. E. Montgomery of Palestine, J. S. LeClercq of Dallas, J. J. Culbertson of Paris, John W. O'Neill of Clarksville, J. Webb Howell of Bryan, president of the Texas Cotton Seed Crushers' Association, and Robert Gibson, secretary of the latter organization.

The executive committee appointed by the Memphis gathering to look after the immediate future consist of: President R. E. Montgomery, Palestine, Texas; J. H. Dubose, Memphis, Tenn.; George W. Covington, Hazelhurst, Miss.; Fielding Wallace, Augusta, Ga., and W. F. Pendleton, Durant, Okla. This committee was scheduled to meet in Washington, and was requested to ascertain as soon as possible how much longer the Government will take all of the linters. The reason for the interest in linters is double: The Government requires not less than 145 pounds of linters from each ton of cottonseed, and that amount of linters tends to reduce the protein content of cottonseed cake.

The welfare committee consists of: J. H. Dubose, Memphis, Tenn., chairman; A. G. Kahn, Little Rock, Ark.; J. J. Lawton, Hartsville, S. C.; W. F. Pendleton, Durant, Okla.; John Aspegren, New York; H. E. Watkins, Atlanta, Ga.; J. S. LeClercq, Dallas; W. O. Thompson, New York; E. E. Chandler, Chicago; W. A. Reynolds, Charlotte, N. C.; J. E. Quarles, New Orleans; W. E. McCaw, Chicago; W. F. Brode, Memphis.

TEXAS AND SOUTHWEST (Continued)

BOLLWORM QUARANTINE TO REMAIN IN FORCE.

On December 1, Commissioner of Agriculture, Fred W. Davis issued a statement, from Austin, to the effect that the quarantine controlling the shipping of cotton and cotton products will remain in full force. The statement also says that a recommendation is to be made to the Governor of Texas that growers of cotton in Zone No. 2, be privileged to resume growing cotton, by subscribing to certain conditions, to-wit:

1. Not to plant any seed originating within a quarantined or non-cotton zone.
2. Free access to fields by agents of the Commissioner of Agriculture.
3. Constant inspection of the growing cotton, and immediate report to the Commissioner of Agriculture of any appearance of the bollworm pest.
4. Agreement to gather the crops immediately after they mature, and thorough destruction of plants and bolls after crop is gathered.
5. Destruction of growing cotton by the Commissioner of Agriculture, without compensation to the grower, if bollworm pest appears.
6. Cotton and cottonseed to be ginned, transported and marketed under the direction of the Commissioner of Agriculture.

Before making his recommendation to the Governor, Mr. Davis has required that all fields be thoroughly cleaned up, and all seed moved out of the territory involved. It is also provided that no seed grown in Zone No. 2 must be kept on the farms for feeding or other purposes.

It is believed that there may be some modification of article five, which provides that cotton found infected with bollworm shall be destroyed without compensation to the grower, because the pest has been introduced in seed shipped to Texas from old Mexico before it was known that the bollworm existed in that country, and it is still possible that a farmer planting in good faith may, through no fault of his own, become the victim of this seed, even though remotely. It is pointed out, however, that the State should not bear the risk, and that the farmer who plants in Zone 2, takes his chance.

MAXIMUM OF \$20 A TON FOR HULLS.

According to a ruling of E. A. Peden, Federal Food Administrator for Texas, mills and dealers will be permitted to charge a maximum price of \$20 per ton for cottonseed hulls. This ruling was made early in December. Cotton mills of the State have been instructed to stop cutting linters for munitions, and to reduce the cut from 145 pounds to 75 pounds or less.

DECREASED COTTON ACREAGE URGED.

In an address before the Bureau of Agriculture of the Dallas Chamber of Commerce and Manufacturers' Association on November 30, Clarence Ousley, Assistant Secretary of the United States Department of Agriculture, said:

"It was necessity for the Government to fix a price on wheat to stimulate the production. The Government of the United States and the allies needed wheat. But there has been an abundance of cotton and the Government has been trying to keep down the acreage. In this it has been successful to a moderate degree, and taking this and the fact that we have had three short crop years in succession into consideration, it was naturally presumed that when peace finally came the prices would soar. This theory has proven wrong and to keep the price of cotton at a substantial figure it is going to be necessary to cut the acreage and for the farmers to co-operate on a marketing plan."

Mr. Ousley went on to show that the world consumption of cotton is not liable to reach its normal stage before 1921, principally because many mills in France and Belgium have been destroyed, while those in Germany have been stripped of leather, brass and other essential things that were taken for the manufacture of munitions, and for use in warfare. The speaker also predicted that the United States is facing a period of agricultural prosperity that will last for years.

"There is a shortage of men on the farms," he said, "which is going to mean that those who remain are going to receive double profits on their product. It will take many years to get enough men and women to go to the farms from the cities to overcome the shortage, and it will only be possible then if they are shown that those following agricultural pursuits are making good money."

NEW ZONE ESTABLISHED.

Under date December 3, the Food Administration of Texas issued a communication to the Texas Cotton Seed Crushers' Association, and to all cotton seed oil mills and other interested parties, establishing a sixth zone. The communication states:

"Investigation convinces us that the cottonseed raised in the irrigated sections of Pecos, Ward, Reeves and Culbertson Counties contains a higher content of oil than the cottonseed marketed in Zone 5, and we have decided to create a new zone (number 6) composed of these counties in which the designated yields will be the same as in zone number one." (39 gallons).

TEXAS AND THE SOUTHWEST (Continued)

HAS SEEN COTTONSEED OIL INDUSTRY GROW FROM SMALL BEGINNING.

Probably no man in the Southwest has a wider acquaintance among cotton seed oil men than has Mr. W. I. Yopp of Dallas, Texas.

"When I first came to the Lone Star State in 1892," says Mr. Yopp, "cottonseed and its products were not regarded with anything approaching the importance they now have. Why I can remember when cotton seed brought only \$6 a ton, and cottonseed meal only \$8 a long ton. It was at the cattlemen's convention in March, 1895 at Fort Worth that cotton seed meal first came into its own. We had been trying desperately to sell this valuable stock food to the farmers and cattlemen of Kansas, where a severe drought had made the regular feed very scarce. But cotton seed meal was unknown to them. They were afraid of it. At the convention that year a number of Kansans saw with their own eyes Texas cattle, sleek and plump, that had been fed on cotton seed meal. What do you suppose happened? In two weeks cottonseed meal went from eight to fourteen and fifteen dollars a ton, and the demand from Kansas has been increasing ever since. Yet, prior to its acceptance by Kansas, we had been shipping cottonseed meal clear to New England, even as far as Bath and Portland, Maine, where the northern farmers used it for winter feed. The skepticism of the Kansas farmers of 1894 goes to show the value of conventions. Had it not been for their delegates witnessing for themselves what cottonseed meal had done for Texas stock, Kansas might still be cotton seed meal-less."

This is but one of many interesting items concerning the cottonseed industry that Mr. Yopp has at his tongue's end. He says that there are now only two cottonseed oil mills in Texas operating under the same corporate name and the same manager as in 1892, the Trinity Cotton Oil Company, of Dallas, under the direction and supervision of F. C. Callier, and the Marlin Cotton Oil Company at Marlin, under W. D. Kaiser. "All the others have changed hands—some for better, some for worse," says Mr. Yopp.

It was at Memphis, Tennessee, in 1891, that Mr. Yopp went into the cotton seed brokerage business, following six years of experience with F. W. Brode and Company of the same city. One year later, in 1892, he opened a branch office at Dallas, and the business has continued successfully until this day. He was the first cottonseed broker in the Lone Star State, and it was he who got out the first cipher code for the cottonseed business. This code was designed for his own use, but was adopted

generally, and is now recognized as standard and is used by all brokers.



W. I. YOPP.

While the writer was talking with Mr. Yopp the postman handed him a letter, saying "Here it is—this is it." The envelope had the Red Triangle of the Y. M. C. A. in the corner, and Mr. Yopp tore it open eagerly. It was from his boy in the service and—well that is the picture that remained: the tall, dignified, white-haired father, standing in the center of his office reading a letter from his soldier son. After all, business and human fellowship are not so distinct from each other as many persons try to make themselves think they are.

GOOD PROSPECTS FOR 1919.

The October and November rainfall in Texas was considerably above normal. In October, particularly, the precipitation was gratifying. The average for the State in that month, as shown by official records from 195 stations, was 3.88 inches. The above normal average from 120 stations having ten or more days' record, was 1.38 inches. Last year there was a deficiency of rainfall, which partly accounts for the short crop of 1918, the comparatively dry condition of the ground being intensified by the long drouth in mid-summer. According to the Galveston News, the farmers of Texas will begin cultivation next spring under more promising conditions than have prevailed for three years past. This is the forerunner of a large crop, and to quote the same authority: "Next year will be the beginning of an era of unexampled opportunity for men of energy, courage and sagacity, and these rains have given us of Texas the chance to extract our full share of that opportunity."

EFFICIENCY BULLETIN.

The cake and meal results show some improvements on extraction. More attention is being paid to protein this year, in connection with settlement work and this is bringing out the fact that cracked cake is hard to sample. The state requires one pound samples as being official and this seems to be getting better check results than were made on four to six ounce samples, last year. Some experiments made in our laboratory indicate that in extreme cases eight pounds of cake should be sent to the laboratory for grinding, in order to reach the sampling accuracy that is required by the rules of the Crushers Association. Of course this is not practical and not necessary in a great many cases, but it shows the difficulties attendant upon trying to sample cracked cake.

The decided improvement in the average analyses of hulls this month, is we believe, influenced to a great extent by the moisture conditions. We have always noted that in very dry weather the oil in hulls begins to run high. Of course, the good work of the superintendent undoubtedly has a great deal to do with this improvement. It is noticeable that regular customers who take in samples once or twice a day of their hulls, as a usual thing, show the best hull results. In other words, those who are taking only occasional samples, going by guess, usually are losing oil into their hull house.

The interest in seed analyses keeps up well, as shown by the number of samples submitted. Have you ever stopped to think where the oil mills would have been, if it had not have been for the seed analyses?

The whole cotton producing section shows a low oil in seed this year compared with previous seasons, and the tendency was at first to base the price of seed on the amount of oil contained last year.

Now is the season of the year to watch oil in storage, if you have any. We are sorry to report some samples of sour oil received this year, which undoubtedly are caused by dirty storage tanks.

Cake Analyses.

	Number Samples	Moisture	Ammonia	Protein	Stand- ard
Avg. All Mills	901	8.36	7.98	41.04	6.36 .78
Best Avg. Result		7.64	8.08	41.54	4.92 .60
Worst Avg. Result		9.00	8.20	42.62	10.62 1.16
Avg. This Month					
Last Year	804	7.66	8.03	41.29	6.46 .80
Anl. Avg. last Yr.....	4008	7.88	8.13	41.77	6.50 .80

Hull Analyses.

	Number Samples	Whole Seeds and Meats	Oil in Cleaned Hulls	Total Oil	Loss per Ton Seed	Stand- ard
Avg. All Mills	245	.05	.55	.64	.11	1.70
Best Avg. Result		0	.36	.37	0	.98
Worst Avg. Result		0	1.26	1.40	.72	3.73
Avg. This Month						
Last Year	342	0	1.07	1.26	.60	3.36
Anl. Avg. last Yr.....	1867	.01	.98	1.16	.52	3.09

Seed Analyses.

	No.	Calculated Yield				Percent
		100 Lbs. Waste				
	Sam- ples	Mois- ture	Gal. Oil Per Ton	Lbs. Cake 8 % Amm.	Ammonia in Seed	Oil in Meats
Avg. All Mills.....	124	9.88	36.8	1052	4.21	17.50
Best Avg. Result.....		10.50	42.0	1042	4.17	19.57
Worst Avg. Result		8.45	29.5	1065	4.26	14.64
Avg. This Month						
Last Year	62	6.96	39.3	1045	4.40	18.54
Anl. Avg. last Yr....	555	8.05	38.5	1008	4.25	18.18

Oil Analyses.

	Number Samples	Refining Loss	Color Red	Free Acid
Avg. All Mills	35	7.5	6.1	1.9
Best Avg. Result	—	5.9	5.4	1.8
Worst Avg. Result	—	10.7	7.0	2.5
Avg. This Month Last Yr....	30	7.6	7.8	2.7
Anl. Avg. Last Yr.	468	7.6	7.6	1.8

THE FORT WORTH LABORATORIES.

November 25, 1918.

F. B. Porter, Pres.

MOBILE MILL CHANGES HANDS.

Announcement is made that the Mobile Cotton Mill, Mobile Ala., has been purchased by the Standard Oil Cloth Co., of New York, owner of the Meritas Mills of Columbus, Ga., and that A Cryer, formerly assistant superintendent of the latter, has been appointed superintendent of the Mobile mill, which is a yarn mill and is to be employed in assisting to supply yarn to the Meritas Mills, recent changes in the manufacture of fabrics having caused a greater use of yarn than the carding and spinning capacity of the plant at Columbus can furnish. Alvin Hunsicker is now president, and H. M. Garlick, vice-president of the Mobile mill. The executive offices of the Meritas Mills are at 320 Broadway, New York. The Mobile plant is to be enlarged. Murray W. Dunlop was its former president, other previous interests in the plant being those of John Quill and the estates of J. Pollock and L. Hamel.

OIL PLANT BURNED; LOSS ABOUT \$400,000.

The plant of the Natchez Oil Company, with over two thousands tons of cottonseed and a large quantity of cottonseed cake, was destroyed by fire here today. Five other buildings near the oil mill were also destroyed. The loss is estimated at between \$350,000 and \$400,000. A large quantity of refined oil was saved, together with ten freight cars that were in the building when the fire broke out. How the fire started has not been determined.

Hawkinsville Oil Mill, a three-story building at Hawkinsville, Ga., with a large fertilizer mixing plant, a car of cottonseed meal and one hundred bales of cotton were destroyed by fire.

OIL MILL CHEMICAL CONTROL BULLETIN **REPORT FOR MONTH ENDING** **NOVEMBER 15, 1918.**

Average Analysis-C. S. Cake and Meal.

	Molsture	Protein	Oil
Average All Samples	8.18	41.84	5.87
Average Highest Samples	8.50	48.01	6.44
Average Lowest Samples	9.35	37.52	5.21

Average Analysis Cotton Seed.

	Molsture	Oil	Hulls	Total Gals.	Ammonia
Average All Samples	11.23	18.99	42.9	50.6	4.26
Average Highest Samples	10.11	19.69	41.9	52.5	4.17
Average Lowest Samples	11.75	16.00	45.9	42.6	4.62

Cotton Seed Hulls.

	Whole Seed and Meats	Oil in Hulls	Total Oil
Average All Samples	0.10	0.64	0.69
Average Best Samples	None	0.25	0.25
Average Worst Samples	0.43	1.52	1.64

Crude Cotton Seed Oil.

	Refining Loss	Color Red	Fatty Acids
Average All Samples	8.6	6.4	1.7
Average Best Samples	8.2	4.5	1.0
Average Worst Samples	8.7	7.8	1.3

HOUSTON LABORATORIES.

Houston, Texas. P. S. Tilson, Chemist.

November 15th, 1918.

MACON PACKING CO. STARTS.

The Macon Packing Co., has opened a million dollar plant in Macon, Ga., for the preparation of all packing house products. The plant is described as the best equipped in the south and its completion marks an important step in the business progress of Macon and middle Georgia.

The company has a killing capacity of 1,000 hogs and 100 head of cattle daily. All the machinery is of the latest model.

The officers of the company are A. Block, president; N. M. Block, vice-president, and J. R. Masenbrug, secretary and treasurer.

J. C. Buhrmeister is the general superintendent, and W. E. Anderson, general sales manager. Both are former employees of Swift & Co.—The National Provisioner.

CURING SWEET POTATOES.

The Union Cotton Oil Company's Fitzgerald, Ga., curing plant made its initial purchases recently, and during the morning hours the streets leading to the plant were filled with wagons loaded with potatoes for the plant. Manager Charles Newcomer, of the company, who planned and executed the erection of the 20,000 bushel storage plant, was on the ground and superintended the repacking and grading of the potatoes and paid out about \$1,000 for the first day's delivery of yams.

CASTOR OIL MADE FOR AIRCRAFT WILL BE SOLD SOON FOR DOMESTIC CONSUMPTION.

Big Plant at Gainesville, May Be Shut Down and Beans Crushed in Private Plants Once Offered Government and Refused.

Washington, Nov. 16, 1918.

There will soon be plenty of castor oil distributed to the trade through normal channels. At a conference on Thursday, Lieut. D. W. Grant and Capt. H. H. Mayer, representing the Bureau of Aircraft Production, agreed to release for domestic use by the trade a large supply of castor oil that has been accumulated for lubricant for the rotary engines on airships. This is all of No. 1 quality, medicinal oil. It will probably be released at 26 cents, although the aircraft people have asked 30.

At this conference, which was attended by officials of the War Industries Board, it was indicated that the castor oil crushing plant at Gainesville built by D. C. Gillett of Tampa, Fla., under contract with the government to crush all the castor beans grown east of the Mississippi River for the government, may be shut down.

Mr. Gillett has been in Washington this week in conference with the Bureau of Aircraft Production Officials. He brought samples of oil extracted in the Gainesville plant, and was assured by the officials that they were much pleased with the reports on the plant and the economic manner in which it had been developed to actual production stage.

If this plant is shut down, all the beans grown for the government on something more than 100,000 acres probably will be shipped North and allocated to three of the largest crushing plants. The Baker Castor Oil Company mill in Jersey City will get a good share, as will also Spencer Kellogg & Sons Co., in Edgewood, N. J., and Buffalo, N. Y. The O. & W. Thumb Company plant for the manufacture of flypaper in Grand Rapids, Mich., will also probably get whatever quantity of beans it may need. E. A. Prosser, who has been handling the castor oil schedule for the War Industries Board, under Charles H. McDowell, chief of the Chemical section, will probably be placed in charge of this castor oil and castor bean supply. —Oil, Bean and Drug Reporter.

POSITION OPEN to competent man as foreman in press room of expeller oil mill. Address Foreman, care of Oil Miller, Atlanta, Ga.

In a letter received from Mr. H. E. Wilson, Manager of the Planters Cotton Oil Company of Navasota, Texas he asks to state that there was an error made in quoting him as authority for the statement that any mills in the Southwest were contemplating the crushing of copra, which appeared in our November issue.

UNCLE SAM and COTTON LINTERS.
An Open Letter From Lehman Johnson to The War Industries Board.

Memphis, Tenn., December 2nd, 1918.

Hon. Bernard M. Baruch, Chairman, War Industries Board,

Courtesy Mr. Geo. R. James, Washington, D. C.,
 Dear Sir—

Apprized of everything that has been done or proposed in reference to cotton linters up to this writing I beg to say that the U. S. Government's honor and your own is involved in according the cotton growers and their agents, the oil millers, the same treatment that must and will be accorded the wheat growers and their economic agents, the flour millers, and that is full protection against loss in accordance with the prices of both cotton linters and wheat as arbitrarily fixed. This cannot be done honestly and honorably except by the Government's assuming the profit and loss account and continuing full control of the manufacture and sale of the entire linter production. This does not mean that it is not right and reasonable (for it is both) immediately to guarantee each and every oil miller the equivalent of 4.67 cents times his average cut of lint this season to date and this having been done to direct him to make such kind and cut of lint, with proper regard to separation and other products, as shall reduce the government loss to a minimum in the disposition of the same.

If our Government had not only fixed the price of wheat but also had required the wheat grower to grow as much wheat as he possibly could per acre, stating the minimum that must be grown under penalty of losing the use of his land, requiring him to provide himself with the necessary additional fertilizer and agricultural machinery, which is virtually what you have done with the oil miller, it would be dastardly in the Government by either cancellation or compromise to shift its own responsibility to take the product made at the price fixed, whatever the loss.

This letter is neither a reflection, nor criticism, but a simple request for the same treatment from the Government for a cotton plant product, cotton linters, which under almost exactly similar conditions the Government will give to a wheat plant product, wheat.

Any other course will be dishonorable to the Government and provocative of sectional recrimination of serious import.

Very respectfully,

Lehman Johnson,
 Consulting Cotton Seed Specialist.

The Monroe Cotton Oil Company, Monroe, La., will erect two brick warehouses, costing \$6,000 and \$2,800, respectively.

COTTON ZONE LINE ABOLISHED IN OKLAHOMA AFTER DECEMBER 5.

The Federal Food Administrator for Oklahoma, under date of November 22, issued to the county food administrators the following bulletin:

First. After December 5 the zone line is abolished and the entire State will constitute one zone.

Second. The present stabilized price applies to all cottonseed under bill of lading on or before December 5. In exceptional cases where there are particular circumstances preventing the loading of sound seed application may be made in writing to the Federal Food Administrator at Oklahoma City for exception to this ruling.

Third. After December 5 and prior to December 16 the price of cottonseed in carload lots, f. o. b. all points in Oklahoma, will be \$53 per ton. The wagon load price will be \$3 per ton less. This price applies to all seed under bill of lading on or before December 15. In exceptional cases where there are particular circumstances preventing the loading of sound seed application may be made in writing to the Federal Food Administration at Oklahoma City for exception to this ruling.

Fourth. After December 16 the price of cottonseed in carload lots, f. o. b. all points in Oklahoma, will be \$43 per ton. The wagon load price will be \$3 per ton less.

Fifth. The sixty-day rule is abolished.

Sixth. If there is any surplus of good seed which has been held for planting purposes, these may be sold after March 1, 1919, at the price now prevailing.

Seventh. Except as modified herein all the rules and regulations now in force continue in full force and effect.

"Mr. C. E. Edwards, who for a number of years was prominent in the oil mills in Georgia, is now located in Wilmington, N. C., where he is re-building the Universal Oil Company's mill and preparing to primarily crush peanuts. Mr. F. R. House, who represents the Main Belting Company in the Carolinas, belted this new mill for Mr. Edwards throughout with Leviathan-Anaconda belt; and reports the Universal Company will have one of the most modern and up-to-date crushing mills in the Carolinas. Also that the work on this mill is progressing very satisfactorily to the stockholders and Mr. Edwards.

Fire of unknown origin completely destroyed the main cottonseed warehouse of the Pine Bluff Cotton Oil Company at Pine Bluff, Ark., and badly damaged other parts of the plant. Loss on stock and buildings estimated at \$150,000 to \$200,000.

OIL CRUSHERS SHOULD CONFER AT ONCE TO PLAN CAMPAIGN TO HOLD WORLD TRADE.

Advice of Chief Reuter.

Washington, Nov. 29, 1918.

Oil crushers of the United States should co-operate unitedly with unselfish zeal, and go after world business. This is the advice of B. E. Reuter, an engineer of international reputation who is chief of the division of oils and fats of the United States Food Administration. This advice comes to the industry as his personal message after weighing well all the information, surveying the fields of supply and consuming markets, and sizing up the world situation broadly from his unequalled point of view. Having served the oil interests of the country well in helping to win the war, he now volunteers his "services in any way that they may be of any assistance to the oil industry of the United States" for the up-building of trade during peace days.

Mr. Reuter suggests that a conference should be held by representatives of all the crushing interests—copra, cottonseed, soya bean, castor bean, peanuts, flaxseed, etc. He urges a committee of aggressive technical, practical, business and financial men, with subcommittees to work all over the world along these lines—purchase of raw material, marketing of the raw material or finished product, and on shipping interests.

Great Britain and Germany Ready.

He recognizes that Great Britain and Germany are preparing for invasion of the oil markets of the world and advises strongly that the crushers of the United States should not waste time before going vigorously after the supplies of raw materials and in taking the world's orders for the finished product. He points out where these supplies are to be obtained, the best method of approach and where there are large undeveloped markets for the oils and such second products as soap into which ingratiating sales agents should be sent.

Mr. Reuter has prepared a table showing the exports and imports of fats and oils and oleaginous materials for the years 1912, 1913, 1914, 1915, 1916, 1917 and the first six months of 1918. After studying this table and weighing it with what he knows of the oil industry in this country and abroad, he says:—

"The future of the vegetable oil industry of the United States depends entirely upon the crushers of the country. As far as the market for the cottonseed oil and peanut oil is concerned, there is no need to worry, for in normal times we had two markets for these oils; one—consumed in the lard institute, margarine, soap and unclassified industries, and the other—in exports to foreign countries."

Exports in 1914.

In discussing the statistics shown in the tables of exports and imports he says:—"Looking back to a normal time, say 1912, we exported three hundred and fifty-six million pounds of cottonseed oil; in 1917, one hundred and twenty-five million pounds, and the first six months of 1918 seventy-five million pounds. This shows a decrease in the exports of this commodity. The exports of peanut oil, of course, have increased from six thousand pounds in 1912 to one hundred and seventy thousand in 1916. One hundred and forty-five thousand was exported in 1917 and thirty-one thousand pounds during the first six months of 1918. It is reasonable to assume that our exports of cottonseed oil during the last two years would have been as great as during the four previous years had it not been for conditions brought about by the war. Holland, Germany and the Northern neutrals were not receiving the quantity that they would have purchased, due to the embargo on fats and oils placed in 1917—which was necessary in order to insure sufficient for our own demands—is one of the reasons for the decrease of the exports of cottonseed oil. Having explained the cottonseed and peanut oil situation as not being necessary to worry over the market for these two products, even though the production of peanut oil is on the increase, I wish to call the trade's attention to a matter that I do not feel is inappropriate to place before them for their most serious consideration, and that is, "What is the backbone of the industry, and what are the potential assets of the nation?"

Does the oil industry of the United States wish to be merely a receiving industry drawing its supply of raw material from our own production and satisfy itself with the marketing of just this quantity of raw material, or is it not wise to be more highly progressive and be more an exporting industry than one in the "stay-at-home" class? Take the foreign countries for instance, Great Britain, France and Germany, the three principal oil producing countries, and what I mean by oil producing is the production of oil by hilling operations of oleaginous materials, which are almost entirely imported by them. These countries import the raw material from their own possessions and other countries in the Far East, produce the oil, consume the quantity necessary for their own consumption and export their surplus.

It is true that a considerable amount of oil has been produced in Africa and the Far East and exported to England, France and Germany. Take, for instance, the cocoanut oil industry:—In pre-war times almost the entire output of the Philippine copra production was exported to foreign countries, Germany receiving the major part of the Philippine production, crushed it into oil and cake, either con-

sumed the cake for cattle feed in her own country or consumed part of it and exported the balance to the neighboring countries; they also exported a considerable amount of oil to the United States. The question is—"Do we wish to draw our cocoanut oil supply from Europe when peace is with us again?" If we do, there will be no one to blame but the oil industry of the United States.

The copra crushing industry of the United States, beginning about 1914, while it has grown to large proportions, can still be classed as in its infancy. We imported in 1912, 62,168,440 pounds of copra. In 1914, 60,076,664 pounds of copra; in 1917, 366,700,360 pounds of copra, and 347,755,778 pounds of copra during the first nine months of 1918. As there have been no exports of copra, it can readily be seen that very few industries have grown so rapidly from such a small amount of material consumed to such large proportions within three or four years.

The question is—"Will this industry remain in this country?" Some are of the opinion that within a very short time after peace is signed, and shipping is in better condition, that the copra crushing industry of the United States will be reduced considerably. Those of such an opinion claim that the oil can be produced at the point of production very much more economically than that produced in this country. To these critics I would reply as follows:—

First, it depends upon shipping conditions. If the mills here have special tonnage of their own, they will be able to bring in copra and soya beans, crush these materials into oil and cake, and compete with the foreigner, who has to crush his material at approximately the same cost in the various industries, and export his oil and cake to Europe or America. It will be necessary for the foreign oil producer to have two markets for his products, one for the oil and one for the cake, while the American producer requires only one foreign market, and that for his oil, as the cake can be disposed of in this country. Before the war the American feeder would not make use of copra cake as a cattle food, and what little copra cake was produced was practically all exported to foreign countries. Since the war this has been changed, the feeder has made good use of copra cake, it selling from \$40 to \$50 per ton. Therefore, the American crusher, if he provides himself with his own tonnage at reasonable cost, could bring in seeds and nuts, or other oleaginous material, crush it, market his oil and cake in this country, or even export both to foreign countries, on the same basis as the crusher in the Far East produces his oil and cake from the raw material and exports them separately. It's all a matter of distance and wanting to do it. After the boat is loaded it does not make much difference, unless the distance is very great, as to which direction the oil, cake or raw material is shipped. It seems to me that it will all center upon

the basis of competition between the shrewdness of the American and that of the foreign crusher, and not a matter of market.

Should Import Raw Materials.

It is better to import raw materials, such as copra, soya beans, and other oleaginous material, and export to foreign countries whatever they desire, whether it is cottonseed oil, peanut oil, cocoanut oil, or soya bean oil, or any other commodity. It should not be a question of what we should export, but "what do they want," and to interest them in taking the commodity in a finished state. The purchasing field is very great in raw materials, and it is all a matter of competitive buying. Copra can be had from the Philippine Islands, South Sea Islands, which is principally gathered at Sidney, Australia; Dutch East Indies, India, Africa, China, and around Central and South American countries. The supply is growing very rapidly, or, in other words, the production is increasing. The production of copra has never reached its height, and there are many virgin fields where American interests can gain a foothold. In the Congo, especially the Belgian Congo, where are rare opportunities for Americans to interest themselves in the production of palm kernels and palm oil, or in the growing of palms, as Lever has done in Africa, and as he is now doing in the Belgian Congo. Palm kernels and palm kernel oil are to be had from India, Africa and the Congos.

The production of copra in the Philippine Islands has grown very rapidly during the last few years. So has the copra crushing industry in the Philippine Islands grown to very large proportions; to-day there is approximately sufficient crushing capacity in the Philippine Islands to take care of the entire production of copra. But this should not worry anyone when the world's shipping is again set free for commercial purposes, as it is very doubtful that there will be a permanent embargo on the exportation of copra from the Philippines to the United States. It will be a matter of competitive buying in the Philippines as to where the copra will go. It is up to the American crushing interests to see that they get their share of this copra. Aside from the Philippines, there is sufficient copra to be had in many other sections of the world, so our crushing interests in this country have nothing to worry about as far as raw materials are concerned, provided, however, they get busy and establish themselves in the producing sections of the world in order to secure an adequate supply of raw materials, for the producer sells to those who buy. It makes no difference to them who they sell to, so long as they get the best price obtainable.

As to our own consumption of foreign oils, I wish to state that the Margarine industry has grown to large proportions, and the consumption of cocoanut

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oil in this country is growing rapidly. I do not hesitate to state that if this increase continues the margarine industry will, in the next five years, be consuming at the rate of several hundred thousand tons of cocoanut oil per annum.

Lard Substitutes.

The lard substitute industry is consuming soya bean oil, but not in great quantities, but the specialized lard substitute, which is nothing more than refined and deodorized cocoanut oil, is beginning to show a future. The whole lard substitute is growing very rapidly. The old formula of a mixture of refined cottonseed oil or tallow or stearine is gradually disappearing, and the modern vegetable oils or substitutes are gradually taking its place, for thoroughly hardened cottonseed oil, peanut oil, or soya bean oil, make an equally satisfactory lard substitute, in that if it is thoroughly hydrogenized, it will keep better and therefore give better results. This should not be construed, as meaning that the old form of lard substitute is not a good article.

Due to the enormous quantity of glycerine required in war time for domestic explosives and for export to the Allied governments, the soap industry resorted to cocoanut oil to a considerable extent on account of its glycerine content. Larger quantities of cocoanut oil were consumed in the past few years by the soap industry than heretofore, due in a measure to the increased demand for cocoanut oil, but due mainly to the stabilized price of 17½c. for cottonseed oil. Cottonseed oil was consumed in considerable quantities by the soap industry before the price advanced. After this advance the soap industry looked for a cheaper oil, which would give them equal results. Cocoanut oil and soya bean oil were the ones they drew upon, and cottonseed oil consumption in the soap industry decreased.

Must Work With Consumers.

The oil industry should not be as selfish as heretofore. It should work in perfect harmony with the consuming industry. It has been separated too much in the past. The oil mill industry endeavors to profit as much as possible on the consuming industry. Whenever you force up a price on the consuming industry or on the public there is always danger of substitution.

Every Crusher Should Meet in Conference.

A conference should be held in which should be represented every crusher in the United States—whether they are crushers of cottonseed, peanuts, copra or flaxseed. A representative committee should be appointed. This committee should be composed of technical, practical business and financial men—men who are thoroughly aggressive and have the interests of the industry at heart. This committee should work in close contact with the

entire oil trade—work out its plans, and if possible send delegates throughout the world in three forms: One, to look after the purchasing of raw materials; one, to the marketing of the finished product, or the marketing of raw materials and the finished product, and there should be another committee on shipping to look after the oil industry in the shipping field.

These three sub-committees should be chosen from the committee elected at the conference, and these sub-committees should draw from the industry such men of experience as they require, or at least keep in close contact for advice on any matter that they may have to deal with.

I do not feel as some people do, that the greatest stress should be laid upon the marketing of the product. I feel that the securing of the raw materials and becoming established in foreign fields is just as essential as the marketing of the finished product, and there should be no lines between them—both must work together. The nearest market for the finished product is South America. The trade is there, but so many mistakes are made by our American exporters in endeavoring to secure trade from small countries, by way of correspondence. When seeking trade most of our exporters or manufacturers send their quotations, and their letter states that "these are our quotations." The successful ones send their representatives to the country, who visit with dealers sometimes for weeks, then sell them their entire requirements. Central and South American people, as well as the West Indian and other Island trades, like long letters. They prefer to read all about what you have to sell them and about the commodity you have to offer them. They think it brings them in close contact with you. They do not like the men who talk business immediately upon arrival. They prefer to visit with him, chat with him, and when he gains

Send your delegates, or send your representatives, whichever they may be, direct to the countries where you wish to have trade relations. If they acquaint themselves with the situation, the trade is yours for the asking.—Oil, Paint and Drug Reporter.

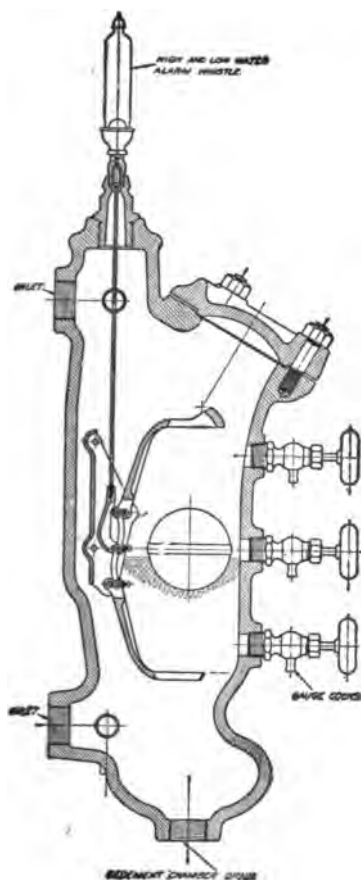
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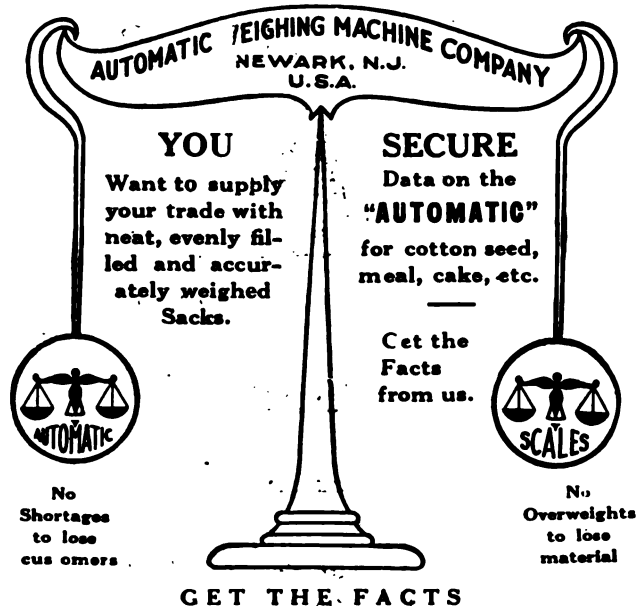
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Attractive Prices—Efficient Service.

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COTTON SEED PRODUCTS.
Agents for J. T. Perkins Co. C. H. Press Cloth.
Seed, Meal and Cake Bags. Full Line of Mill Twines
Always on Hand.
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Complete in Information.

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OIL MILL MACHINERY SUPPLIES AND REPAIRS

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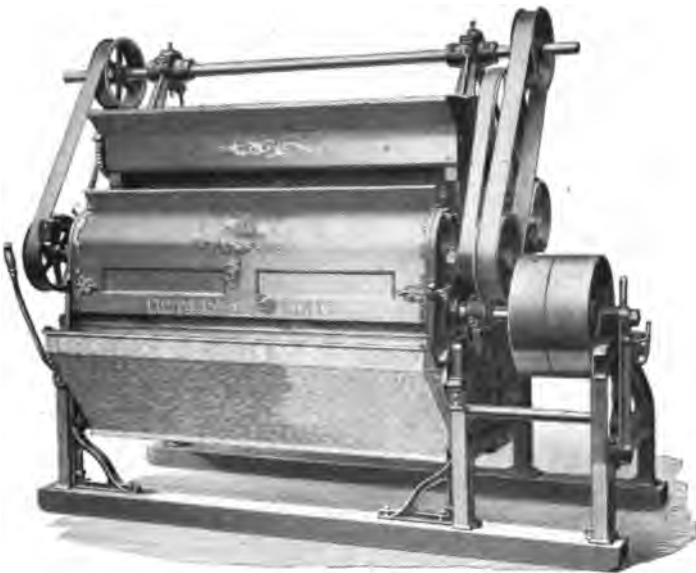
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We Re grind Crusher Rolls.

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Our Latest Model Linter



Independent Drive

High Speed

Ball Bearing

The Record for Close Delinting

Write for our Special Bulletin fully describing the Linter that should be in all Oil Mills.

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Huller (closed)

The AMERICAN Self Setting Ball Bearing Knife Huller

IF you want the best separation,
The least absorption loss,
The least amount of finely cut hulls,
The least power consumption,
The least cost of up-keep,
The least danger of fire,

THEN you want an "AMERICAN" Huller.
It can be trammed while running.
Can be set up complete in thirty minutes.
Has double safety, can not be wrecked.
Breast Plates of best chilled steel.
Knives can be reground if desired.
Discharge spout is self cleaning.
Double safety release permits foreign matter to pass without injury to the machine, the breast returning instantly to position, preventing spillage of seed.

REMEMBER, "AMERICAN" machinery means EFFICIENCY

Write for bulletin of "AMERICAN" Seed Cleaning, Separating, and Press Room Equipment.

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Three Reasons

For an Oil Mill Installing Expellers

FIRST--An EXPELLER MILL will crush a ton of seed at **Less Expense** than any other equipment. No press cloth is required. Less labor is needed.

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THIRD---An EXPELLER MILL can **work any oil-bearing seed, nut or bean** with practically **no change** in the **press room**.

The Expeller System is the American System

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**Cotton Seed Products,
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Supreme in Oil Mill Service !

Over 350 Oil Mills, in the Southeastern States
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**Made New by our Process; send them to us. By
doing this your belt will last twice as long and will
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1 to 48 in.**

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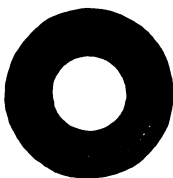
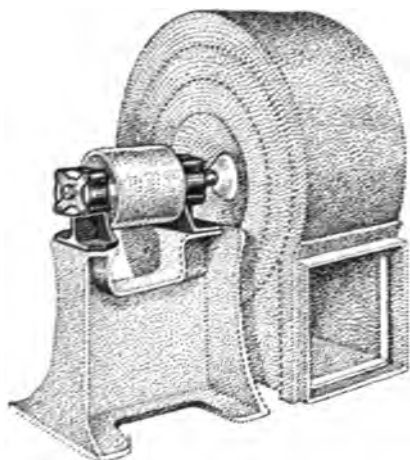
ENGINEERS AND DESIGNERS

Of Improved and Modern Oil Mill Equipments.

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Replace
Your Plain Babbited Bearings
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S. K. F. BALL BEARINGS



FAN EQUIPPED WITH BALL BEARINGS

Replacement easily and quickly made. Results saving in power, lubrication, time, attention. No interruptions or shut-downs. Great saving in fan belts. Full instructions for applying shipped with bearings.

If interested please fill in as below and mail to us.

INFORMATION

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Make of Fan
Diameter of Fan Diameter Fan Shaft
Center of Shaft to Bearing Base on Pedestal
Size and Number of Bolts in Bearing Base
Bolt Spacing on Bearing Base
Remarks:

Bailey-Burruss Mfg. Company

ELEVATING, CONVEYING, TRANSMISSION, Etc.
OIL MILL MACHINERY.

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"SALEM" (SALEM MADE) BUCKETS

Have Quality, Capacity, Easy Fill,
Clean Delivery and Endurance.



Know them by the Originator's address in a circle on the front. Insist on this stamp.

Sold by all Dealers and from our factory; let us mail our list and discounts.

We ship Regular buckets at sight of order and are exceptionally equipped to make up heavy buckets to order. Let us quote prices on anything in the bucket line.

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Please mention this paper.

All Farm Products will Remain High for Years to Come.

Just Think of it!

Short Cotton at	30c lbs.
Long Cotton at	75c lb.
Cotton Seed at	\$85.00 ton
Peanuts at	\$125.00 ton
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Syrup at	\$1.00 gal.

Why not buy a small farm in South Georgia and work it yourself. One crop, at half the prices for the above products, will pay for it. ?

Spend the winter clearing a few acres. One man can clear one acre a day, average new cut over land along the A. B. & A. Railway.

South Georgia lands are cheap. Now is the time to buy.

For list of farms for sale and other information, ask

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FOR SALE

We offer for sale, immediate delivery, displaced machinery from our oil mill and pumping plant as here listed. This machinery has been well cared for under shelter and is sold for no fault. Inquiries will have prompt attention:

One set Cookers consisting of two heaters 62" x 18" and one subheater 72" x 23" complete with cast iron columns, stirrers, gears, shafts, etc., made by Buckeye Iron & Brass Works, Dayton, Ohio. Price \$1,500.

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One Hall low pressure duplex hydraulic steam pump, size 10" x 1 1/4" x 12". Price \$450.

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One standard 13 box hydraulic press, brass plates, made by Buckeye Iron & Brass Works, Dayton, Ohio. Price \$1,000.

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BLACKSHEAR, GA.

ESTABLISHED 1858
E. C. SANXAY G. E. BARTLETT
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NEW YORK LIVERPOOL LONDON
Sole Manufacturers of the
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The Use of this Oil insures a Large

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Saving in PISTON PACKING
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It's a Paying Investment

to buy **Jewell Chrome Leather Belt**. The first cost may be higher than that of other beltings, but the longer life of this belt under severe strain and adverse conditions has proved to the oil mill men who have used it that it is the most economical belt they have used. The tensile strength of the **Jewell Chrome Leather Belt** is very much greater than that of first class oak tanned leather belt. Because of its flexibility it gives greater pulley contact than any other belt, and transmits more power with less slip than any other leather belt. It is waterproof, steamproof and oil-proof.

The **Jewell Chrome Leather Belt** is not an experiment. It has been on the market over fifteen years and has demonstrated beyond a doubt its superiority over other kinds of beltings.

Try it on your linters, on your fans or any other place where you really need a good belt. You will be satisfied.

Any of the jobbers listed below can supply you.

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Will ensure the greatest economy in the use of steam, power, press cloth and labor, and will produce brighter cake and meal, and a greater yield of oil with lower refining losses. We manufacture

Automatic Continuous Cookers.
Hydraulic Cake Formers.
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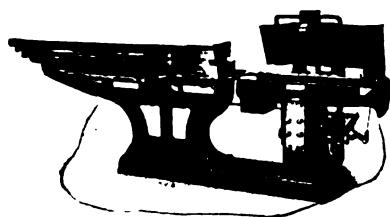
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Plain or Ball Bearing



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Hydraulic Cake Former



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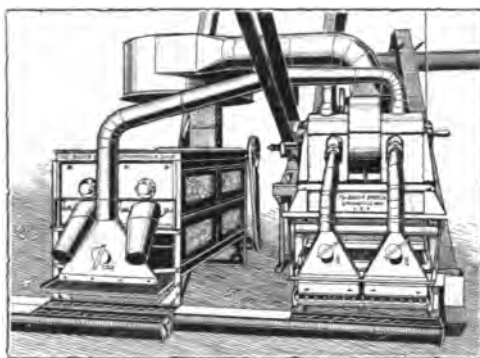


Automatic Continuous Cooker

Bauer

SCIENTIFIC

The Government Considers Our Product Essential.



WHY?

Before the NO. 153 "BAUER" SEPARATING UNIT was introduced to the trade, the amount of LINT separated from Cotton Seed was from 30 Pounds to 80 Pounds per Ton Seed.

AT PRESENT the Government requirements are from **120 Pounds to 190 Pounds of Lint Per Ton Seed.**

THE NO. 153 "BAUER" SEPARATING UNIT IS THE ONLY EQUIPMENT THAT WILL SUCCESSFULLY SEPARATE THIS CLOSELY LINTED SEED—Delivering the meats to the Rolls—**CLEAN OF ALL FIBRE AND EXCESS HULL.**

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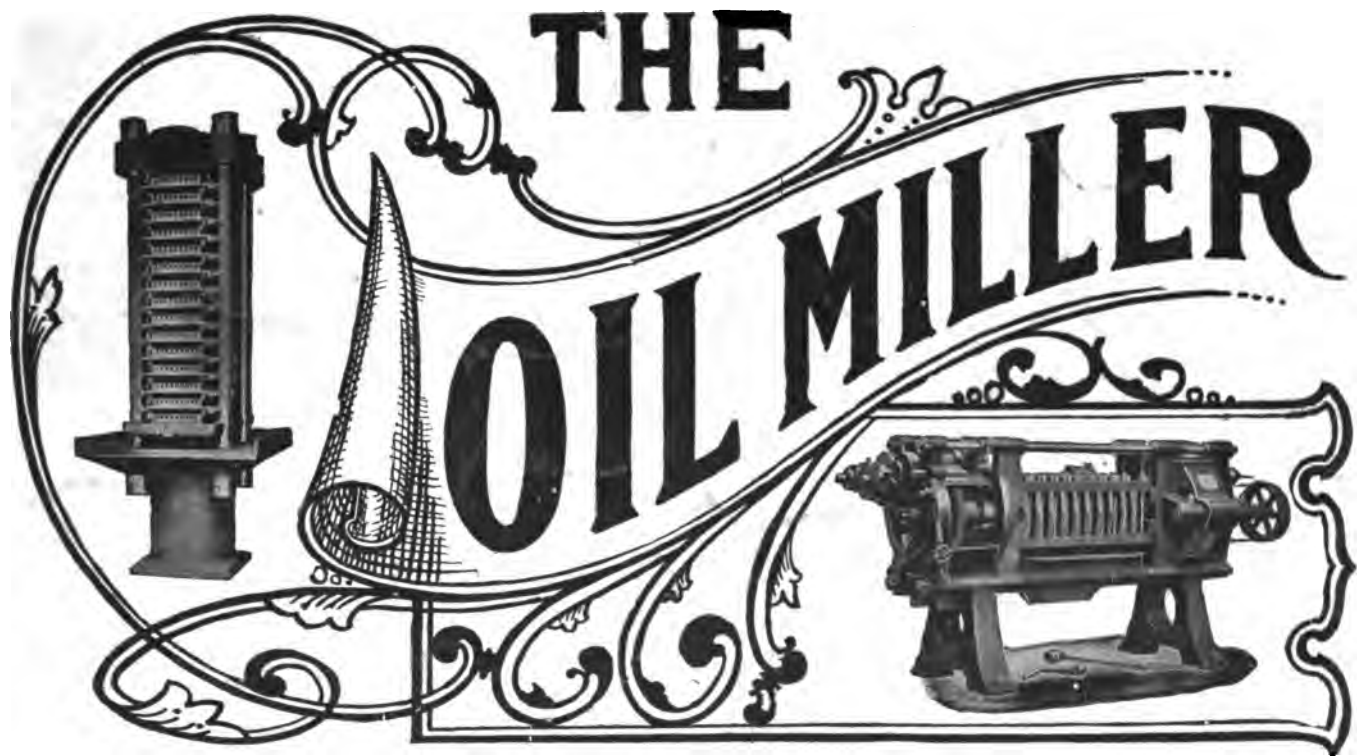
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SCIENTIFIC

ATLANTA, GA.
PUBLISHERS' PRESS, PRINTERS

K.
JAN 31 1919



Vol. IX. No. 5.
Monthly.

Atlanta, Ga., January, 1919.

Entered as Second-Class Matter at Atlanta, Ga., under the Act of March 3d, 1879.

\$1.00
Per Year

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Chemical control by yearly contract and referee and settlement work our specialty.

A cordial invitation is extended to all our oil mill friends to visit our new laboratories, top floor of the Walton Building, when in Atlanta.

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Wilmington, N. C.



Transmission Belting

**"THE RIGHT BELTING IN
ITS RIGHT PLACE WILL
GIVE THE RIGHT SERVICE"**

There is no one belt that will meet every requirement or condition in the Oil Mill. If good service is to be expected from a belt, it is absolutely necessary that the right belt be used in its proper place.

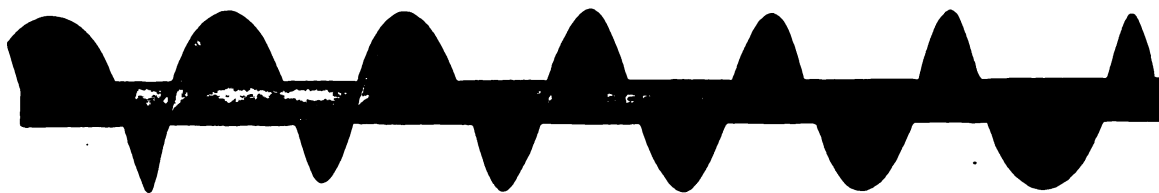
Our engineering department will gladly advise with you as to the belting to be used on the different drives in your mill, namely—

**Linters — Linter Float — Hullers —
Beaters — Shakers — Cake Break-
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We have been supplying many of the Oil Mills throughout the country with belting for many years, and it has always given the utmost in satisfaction.

United States Rubber Company

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End Flights of Each Section of Jeffrey Sectional Flight Spiral, where the most wear occurs, are Extra Heavy.



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Standard Steel Elevator Bucket for handling Seeds, Grain, etc.



Jeffrey Standard Detachable Chain and Attachments

JEFFREY Equipment For Cottonseed Oil Mills

A Complete Line of

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Sprockets and Traction Wheels
Spur, Bevel and Mitre Gears
Malleable Iron and Steel Elevator Buckets
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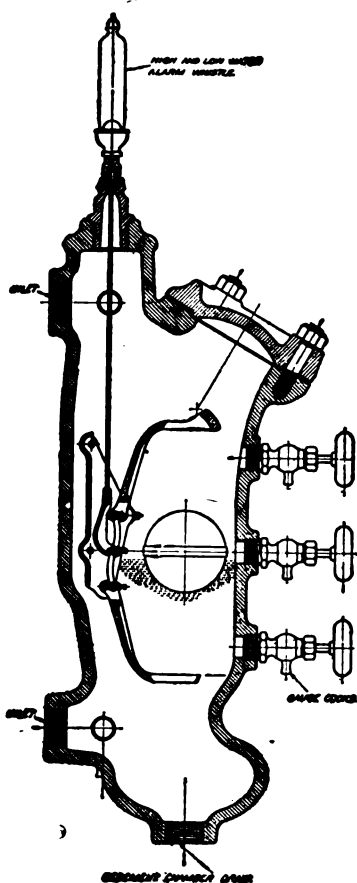


Jeffrey Elevator Boots made in various types to suit conditions.

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The ANDERSON Safety Water Column



attached to your boiler gives you the necessary assurance as it will give persistent warning to the fireman when the water in the boiler is too high or too low. Our column is fitted with a high and low water alarm feature that always works. All working parts are hung on accurately machined bronze pivots in a removable hanger frame and will not rust or stick. The float is the best on the market for high pressure service as it is made of the best material obtainable and is tested for extreme pressures before leaving the factory. The columns are made in different sizes for the different types and sizes of boilers.

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Celebrated for Efficiency, Quality and Safety. Backed by Years of Successful Operation. Both Cylinder and Breast Protected by Armor of Steel. Single Lever Adjustment. Dust-Proof Ball Bearings.

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The Moisture in Cotton Seed



not only determines the value of the seed, but it has a very large bearing on the keeping qualities of the seed, and, therefore, on the oil production, and it affects both the quality and quantity of the oil.

THE HESS MOISTURE TESTER

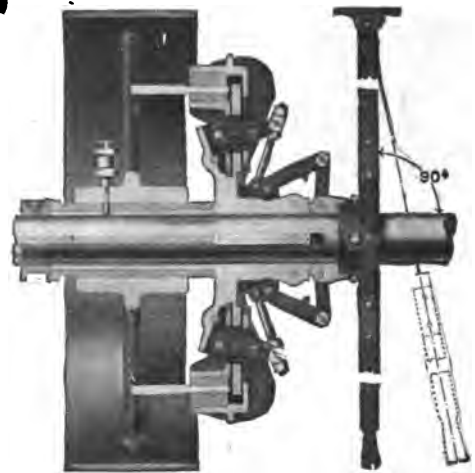
determines in twenty minutes the amount of moisture in your seed by a simple process. The apparatus may be set up anywhere and is operated by any intelligent person. It is used in some of the largest oil mills in the South, and its successful operation is fully guaranteed. Send for booklet.

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will dry your seed before storage, thus preserving it from fermentation and heating, and consequent loss. Made in six sizes, suitable to the requirements of the largest or the smallest mill.


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Complete Power Transmission Machinery Equipment

Important Features of our Complete Equipment are:

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The new Smith Type of Hill Clutch is the result of thirty-four years' experience in manufacturing Friction Clutches.

All working parts are removable without disturbing shaft, hub or pulley. Friction surfaces are positively disengaged; no springs.

Self centering—requires no troublesome bushing in ring hub to align shafts. Toggle mechanism made of steel and forgings. Built solid or split.

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Hill Collar Oiling bearings minimize power losses. Instead of depending upon a loose ring or chain for conveying oil to the journal, a fixed collar is employed.

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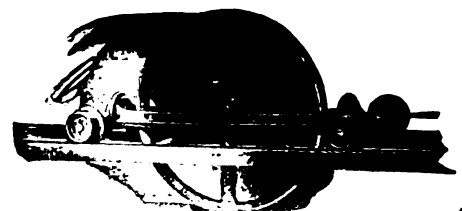
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Preliminary information gladly offered free of charge to all contemplating the installation of new drives or changes in their present system.

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UTILITY FERTILIZER MIXING SYSTEM

**First Cost
Small**

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**Best
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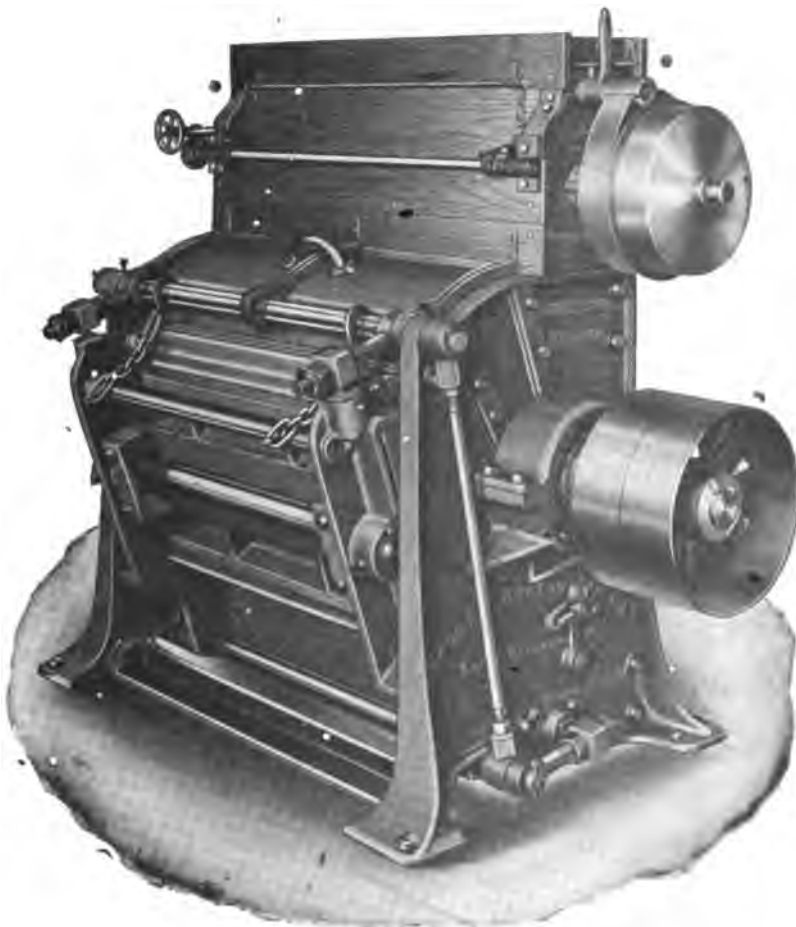
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Scales**

**The most satisfactory inexpensive outfit for Fertilizer Mixing.
Compact and Complete in every respect.**

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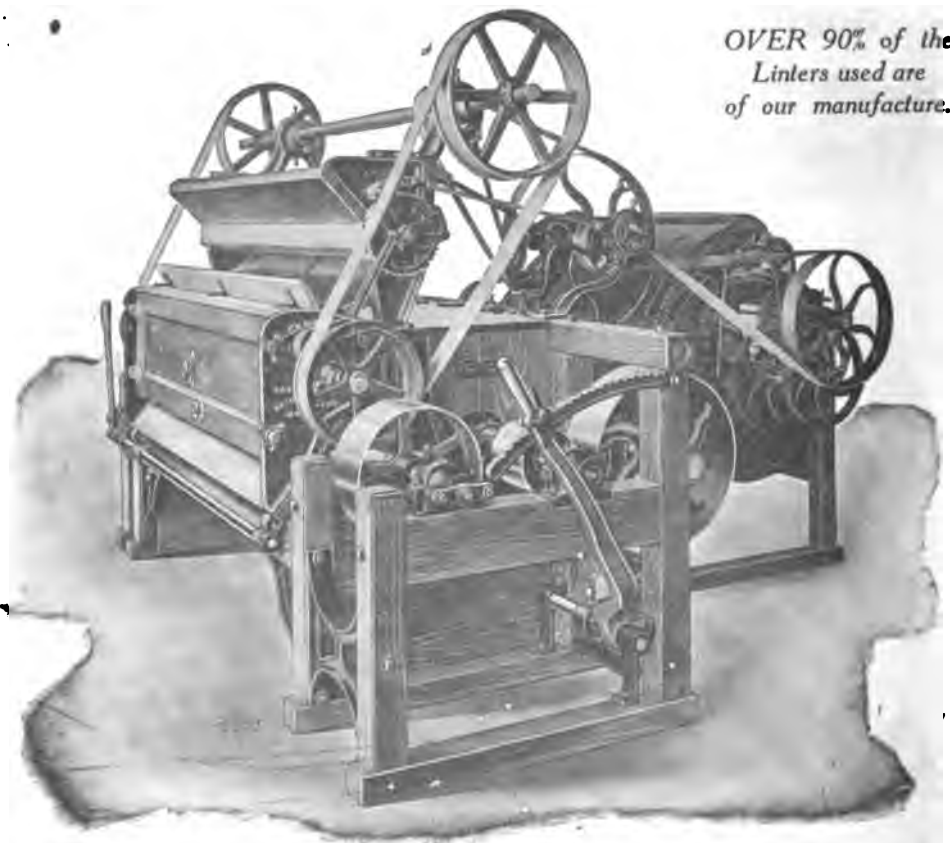
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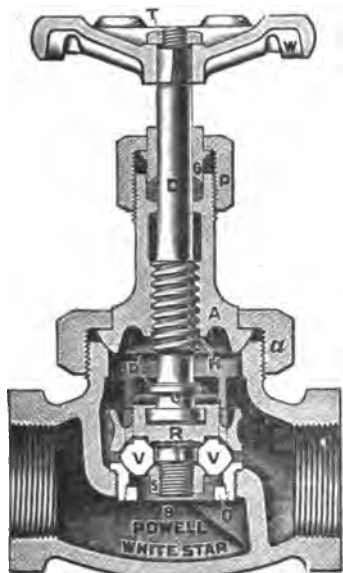
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Machinery built by
us can not be
equalled.**



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(Especially The "White Star" Valve)

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DEPENDABLE ENGINEERING SPECIALTIES.
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FOR

Your Pressing Needs



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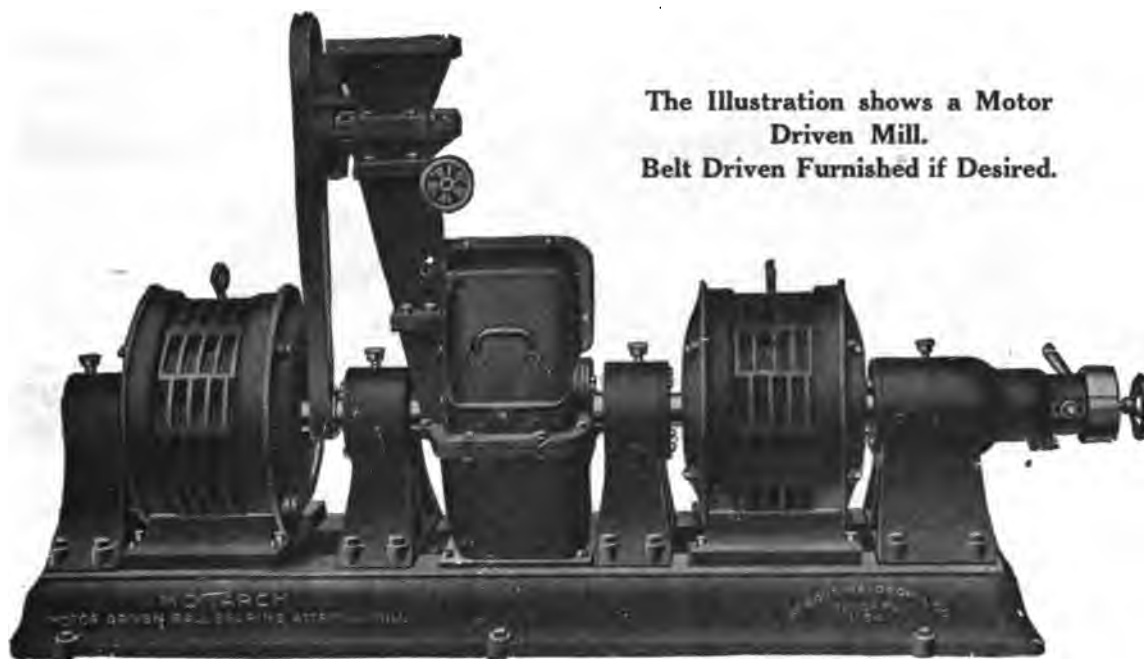
Of Improved and Modern Oil Mill Equipments.

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The Monarch Ball Bearing Attrition Cake Mill

you are securing the very best machine there is made., We fully guarantee every claim we make for it.



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This Machine is the Highest Attainment in Mill Building

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Permanently Non-Trammable
Easy of Operation
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Bearings run Cool, are Dust-proof, Oil-tight and Durable
All individual parts are standardized
It is made to wear

Write for Complete Catalog.

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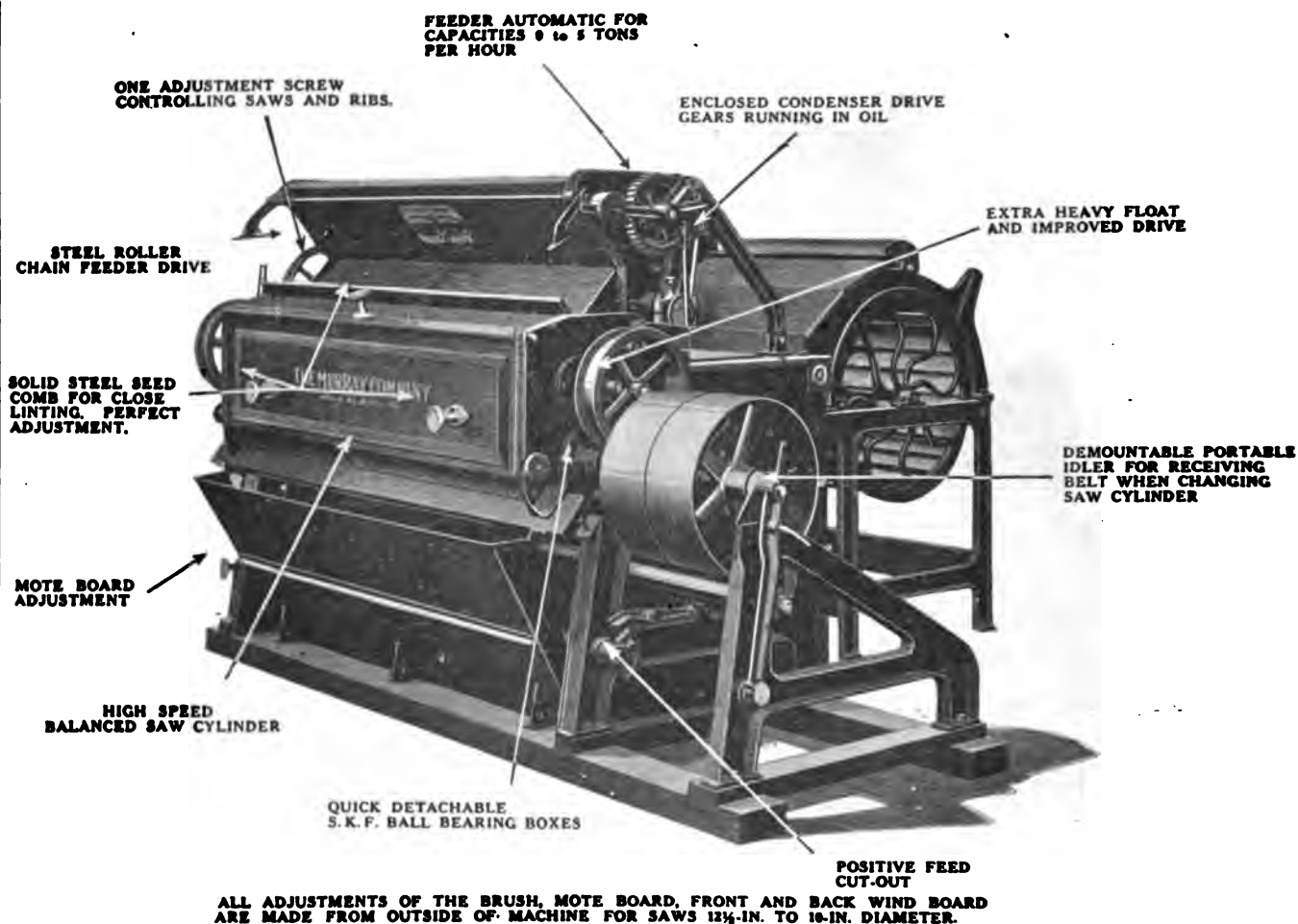
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THE OIL MILLER

BELTING NUMBER

Vol. 9.

Atlanta, Ga., January 15, 1919.

No. 5

THE OIL MILLER

OIL MILLER PUBLISHING CO.

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Atlanta, Ga.

Subscription Price: \$1.00 per Year.
Three Years for \$2.00

Address all communications to The Oil Miller,
Empire Bldg., Atlanta, Ga.

Advertising Rates Furnished Upon Application.

Entered as second-class matter March 4th, 1913, at post
office at Atlanta, Ga., under act of March 3rd, 1879.

Official Organ Alabama Cotton Seed Crushers Assn.
Official Organ Arkansas Cotton Seed Crushers Association.
Official Organ Inter-State Oil Mill Superintendents Assn.
Official Organ North Carolina Cotton Seed Crushers Assn.
Official Organ Cotton Seed Crushers Assn. of Georgia.
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WATCHFUL WAITING.

There is not in sight any immediate relief for the cottonseed oil market. At present there are large quantities on hand and at the fixed price of 17½¢ a pound the refiners are buying only in the quantities absolutely necessary.

A large foreign demand seems to offer the only solution of reducing the stock on hand and transportation facilities must be found to take care of this demand if it is forthcoming. There will unquestionably be a large amount of oil to be carried over into next season and the crusher who has paid an advanced price for his seed naturally is anxious to have the price of oil remain fixed until this large stock is disposed of, otherwise these same crushers would be at a loss of several millions of dollars.

Time somehow seems to adjust all difficulties and while the outlook as the present moment is not

the most promising in the world, time will unquestionably bring about the solution of the situation. We all know that there is a need of oils in the foreign countries, but whether this need is very urgent in comparison with their numerous other needs remains to be seen. In the course of events, the call will come for this oil and our ships may then be at liberty to provide the space required for its transportation.

In the interim, patience and a watchful waiting seem to be the best policy with always the optimistic view that there are great days ahead for the oil business when present difficulties have adjusted themselves.

WAR SAVINGS STAMPS AND PEACE SAVINGS STAMPS.

The war through necessity taught us many habits of thrift and while peace is at hand, this necessity does not cease therewith. For many years to come our country will have to be the financier for the war bled countries of Europe. Large loans will still have to be made and each individual will still have to do his part in helping to meet these accommodations.

The Thrift and War Savings Stamps did a large part towards establishing a Government fund which was a material asset to the government and a benefit to each contributor. The average American has spendthrift habits and surely such a practice as War Savings Stamps which has run up to a billion dollars a year should not be immediately abolished because peace is imminent. Aside from the benefit it will be to our Government, and true patriotism calls for sacrifice as much as it did during the active warfare, there is the advantage to each individual himself in inculcating habits of thrift and profitable investment.

We must still remember that we will have a large army to clothe and feed and must feed besides the ill nourished peoples of the many European countries to bring them back to their one time fitness. We have been spared, in these United States most of the horrors and agonies of the most horrible war which has ever visited the earth. Our homes are left unspoiled, our land is not devastated, our women and children have not the indescribable horrors burnished on their brains as have the women and children of France and Belgium. True we have given of the youth and strength of our manpower and many homes are saddened by their losses, but in memory of these soldiers and sailors who so bravely

gave their all that we might have our all, let us not forget our duty, let us not forget that there are other peoples still suffering, that there is want and famine and desolation over a great part of the earth and let us pause in our habits of luxury and ease and lay aside each week something out of our plenty that it may help those who have not plenty. And remember that even then we will profit the most by the transaction for it is not giving it is but lending and that at a liberal interest.

INFORMATION OR MISINFORMATION?

The Scientific American has for so many decades been considered an authority on scientific subjects that it is with considerable surprise we have noted an article in their issue of December 21st entitled "Concerning Cotton Seed," which is, to say the least, far from authentic and filled with glaring inaccuracies. This is to be regretted, particularly inasmuch as any competent oil mill superintendent could have set them right on most points. If the article had appeared in a daily paper, it would not have been a matter of such moment for then we would have attributed it to some cub reporter who had passed through a cotton mill, gleaned such superficial information as he thought necessary to make an interesting news article, but for The Scientific American not to have endeavored to have corroborated the truth of the statements which were to appear in its pages, makes one naturally wonder if all other subjects appearing therein are treated in the same amateurish, High School Boy theme manner.

The implication is that cottonseed oil is at times used for fuel oils or lubricants. It is never in any case used for a fuel oil and as a lubricant oil is entirely impractical because of its tendency to gum. In the manufacture of margarine, soap and shortening as stated it is without an equal.

In speaking of the world's annual cotton crop the mention is made of 10,000,000 **pounds** of seed as being derived from a 21,000,000 bale crop, whereas every oil man knows this should have read 10,000,000 **tons**, each bale yielding approximately one-half ton of seed.

The statement that the Egyptian seed has always brought a price of from \$10 to \$15 per ton higher than green seed is not true in America, it never having been sold at a premium, and frequently being bought at a lower price than the upland seed.

In licensing the mills last year, the Government insisted on a production of 145 pounds of linters from a ton of seed. This, taken in connection with Scientific American's statement that this "woolly coating" of cotton lint runs 20 pounds to a ton of seed, would seem to place the mills in the position of the Israelites who had to make bricks without straw.

If there ever were a law prohibiting the stacking of seed near the gins because of fire-risk we have yet to hear of it.

The fan, which they mention as a part of the equipment of a linter, is a new appliance so far as The Oil Miller knows.

Mahogany red crude oil is hardly, to our minds, colorless—though The Scientific American may be color blind.

American mills feel that they have failed of good workmanship if their refining loss runs over 9 per cent, instead of from 11 to 15 per cent mentioned in the article.

In the illustrations a battery of linters is carefully labeled "A battery of gins separating the fibre from the boll," and a typical picture of a negro before a former bears the title "Preparing trays of cottonseed for the presses."

The article closes with the two statements—"Planters dispose of the cotton in the boll." "Ginning and baling are done at the mill." We wonder what oil mill the scientist visited.

TEXTILE BELTING.

By Jefferson W. Carter, Southern Manager,
Scandinavia Belting Co.

The use of textile belting in the manufacturing plants of the country has increased very decidedly during the last six or eight years. This is not due to the higher cost of leather belting so much as to the improvement in the quality and kinds of the textile beltings which have been offered. Among the textile beltings which are now in use are some which are giving longer service on drives than leather belting, which was formerly considered absolutely necessary for satisfactory service on these drives.

The increase is also due to the intelligent effort made by the management of manufacturing plants in which belting is used to avoid unnecessary expense. They have come to differentiate more than ever before between the drives which can be operated with a cheaper belting and one which requires belting which costs more.

A few years ago textile belting salesmen, offering to the management of a cotton mill a textile belt, regardless of the guaranty which he offered with it, was often met by the statement, "We are leather belting people. We have tried so many different kinds of fabric belts without having received satisfactory service that we have settled back upon the use of leather belting practically to the exclusion of everything else."

This condition is now, due to the better quality of textile belting offered and to the fairness and honesty of those who have offered it, almost entirely reversed; so that it is safe to say that there is at this time much more textile than leather belting used in the oil mills—certainly of the southeastern states.

The same objections to the use of fabric beltings largely controlled in the textile mills of the south-eastern states in connection with which the writer has personal knowledge, but there are now a number of the largest textile mills in the south who have adopted as their standard at least one of the textile beltings, and use it on all drives throughout their plants. This service includes shifting-pulley looms and bicycle or tandem spinning frame drives, where formerly nothing but leather had given satisfactory service. These plants certify that they not only receive more satisfactory, but that they also get more economical service through the use of this textile belting.

Among the principal improvements in the value of textile belting has been the abandonment by certain manufacturers of the making of the belting in plies and the substitution of a solid woven construction. The beltings built in plies were held together by stitches, rivets, rubber and various kinds of cements and gums. This solid woven construction eliminated all the disadvantages resulting from the earlier constructions.

The large increase, therefore, in the use of textile beltings may be said to be due principally to improved methods of manufacture in connection with certain of the textile beltings, by which it is possible to take out of them during the process of manufacture the excessive strength which was characteristic of textile beltings in the past, and to the abandonment of the old method of constructing belting in plies and the substitution therefor of the solid woven textile belting.

The questions of prices and supply of raw materials have had very little bearing upon the results observed. There seems to have been enough leather at all times for the manufacturers of belting, and, as the prices of leather beltings advanced, those of fabric beltings advanced in about the same proportions.

It is, therefore, fair to assume that the increase in popularity and use of fabric belting is due to proven efficiency and more economical service.

However, the user of course still must investigate and be careful to purchase only those fabric beltings whose makers can show satisfactory and economical service achieved by use of their goods, and who will back them with proper guarantees—and live up to their promises.

The War Trade Board has announced that licenses will be granted for exportation of a limited amount of cottonseed meal to Canada. All applications for licenses must have attached a Canadian import permit, issued by the Canada Food Board, Ottawa, Canada, to the consignee and for the quantity specified on the application for export license.

BELTING AND BELTS.

Wm. J. Sansom, Milwaukee, Wis.

(From The Industrial Arts Magazine.)

Hill's Reference Library says: Belt, belting, a flexible endless band, or its material, used to transmit motion or power from one wheel, roller or pulley to another and common in various kinds of machinery.

A number of different materials may be used in the manufacture of belting, either single or in combination, such as leather, cotton duck, woven hemp, flax or manila, rubber and other waterproofing material. Flexible steel bands are used for certain kinds of work also, but to a very limited extent.

Of all the material in use for belting, there is undoubtedly a preponderance of leather due possibly to the ease with which it may be handled in making joints and its adaptability to a very general line of work and to its strength in tension and durability.

In selecting the hides that are to be converted into belt leather, the manufacturer endeavors to select those that are most nearly perfect, rejecting the whole or parts of hides having imperfections caused by barbed wire, the branding iron and grubs; also whenever possible securing the short-haired hide, as usually the shorter hair the thicker the hide, this being due to climatic conditions of the territory in which the cattle are raised.

The hides after the initial preparation, which consists of the removal of any flesh and fat and the soaking in a lime solution to render more easily the removal of the hair are put through a tanning process.

Tanning preserves the hides from decay and produces a pliability to the finished product. Several preparations are used as a tanning for hides. A combination of alum and salt may be used and will produce a good leather, although it is understood that some toughness is sacrificed and the product is susceptible to damage by water.

Chrome tanned belting in which a tannin containing salts of chromium is used, is being used to a considerable extent and will render good service and is almost impervious to moisture.

Considerable of the heavier belting leather is tanned by the use of tannic acid derived from the bark of oak or hemlock trees, although the bark of other trees not common to North America is also used to a great extent.

After the hide is tanned it is curried or stuffed with a grease; some manufacturers use cod oil and tallow, to render it more pliable and give the leather a fullness.

Not all of the original hide is used for belting leather, however, and in some cases as much as 50 to 60 per cent is rejected as not being suitable. Some large buyers of belting will purchase only center

stock, that is that portion which is taken from the center of the back of the animal as it is beyond question best. The balance of the hide not used for belting is, of course, turned into other commercial uses. The belting is of necessity made up into short lengths as each piece cannot be longer than the hide from which it is taken; these short lengths are then carefully scarfed and cemented together, forming a belt of any length required.

In years past it was necessary to make these joints by using copper rivets or by stitching, but a cement has now been perfected which, if applied properly, will make a joint that is waterproof and has a life equal to that of the belt itself.

Rubber belting, so called, is built up of layers of cotton duck and covered with vulcanized rubber to protect the seams and edges and may be of any desired thickness. The thickness of a belt generally is determined in the case of rubber belts by the number of layers of cotton duck it contains. This kind of belting has an advantage over a leather belting in that it is made of uniform thickness and width and can withstand the extremes of heat and cold, and is also waterproof.

Woven belts are usually made from flax, hemp, or manila and then permeated with an asphaltum preparation to give them a resistance to moisture. This belting would possibly render its best service where the temperature is above 110 degrees F., as it is generally conceded that leather belting cannot give service in extremely high temperatures. Such belting is inclined to be rather stiff and will not give an ideal contact with the pulley until it has been in operation for some time and has conformed to the faces of the pulleys on which it comes in contact.

Steel belt, made of tempered steel with the ends brazed together and the joint further reinforced with thin clamps, has been used to a limited extent in the transmission of heavy power at high speed. It is claimed that a minimum of slippage occurs with these belts when properly installed.

Rope is used to a great extent in certain classes of work but is only used where sheave pulleys are provided and a discussion of its merits need not enter into this article.

Of all the material that may be used, leather will undoubtedly predominate and will give good service unless there are certain conditions to combat, such as acid fumes, gases, steam or moisture when it might be necessary to employ some other material.

While leather belting of first quality will show a high tensility its strength cannot be guaranteed to be uniform; two pieces of belting taken from the same hide frequently will show varying breaking strains.

Belting made of leather has an advantage over woven belts in that it may be cut into strips length-

wise if necessary, without any danger of unraveling the fabric as would be the case with the woven belt, consequently if a belt becomes damaged on its edges in service it may be salvaged by trimming down to a smaller size, thus reducing waste. Scrap leather has also a high value as a carbonizing agent in the case to hardening of steel and finds a ready market.

Belting may be either flat or round, the former being used almost exclusively, the latter finding its place principally on light work, such as sewing machines and some foot power machinery.

In ordering belting, the user must give consideration to conditions under which it is to operate and the selection of suitable material, whether leather, rubber or woven. Whenever there is a doubt as to the suitability of any belting for a given purpose it is always best to confer with the manufacturer, who will be pleased to advise you.

It is necessary to know the power that the belt is to transmit in order to determine its width and thickness. As it is not the intention to give any formulae for belt loads, speeds, etc., in this article the reader is referred to "Machinist Handbook," "American Machinist Handbook" or "Kent's Pocket Book" for information.

Belting should never be as wide as the pulley on which it is to run and in a general way it may be said that it is better to use a wide single-ply belt than a narrow double-ply belt if the pulley is wide enough on its face to allow of a single-ply belt that will deliver sufficient power. Where the width of the pulley face exceeds the diameter it is well to use a double-ply belt. It is generally considered unwise to use a double-ply belt on a pulley that has a diameter of 15 inches or less, as the contraction on the pulley side of the belt and the stretching on the outer side is naturally greater the smaller the diameter of the pulley.

The belting manufacturer will give you better service and be enabled more intelligently to fill your order, if given the following information.

Length of belt and whether ends should be left square, endless or should allowance for lap be made.

Width, state the size needed in inches.

Ply, give the thickness required, that is one, two, three-ply, etc.

Joints, whether to be cemented, riveted, or stitched.

Grade, most manufacturers give each grade of belting a trade name and a careful perusal of their catalog will generally determine the grade suitable for your needs.

Conditions of operation, will the belt be in contact with liquids, gases, acid fumes, heat or subject to sudden loads; also, whenever possible, give the surface speed of the driven pulley.

Purchasing must not be done in a haphazard way

and only sufficient quantity should be ordered at one time to meet the demands as anticipated in a few months. Upon receipt of the belting it should be stored in a dry place.

Specifications may be made up to suit your needs, stating requirements for tensility and pliability determined from actual tests. It is the custom with some buyers to state the method of tanning rather than the tensility required but to the writer it appears immaterial how the leather is tanned as long as strength is obtained and a lasting product made.

It should be remembered that the practice of selling belting by length and not by weight opens many opportunities to the unscrupulous manufacturer to sell an inferior article in competition with better goods as it requires a leather expert to detect the inferior goods by their appearance, therefore, the initial cost must not be your prime consideration in buying belting as you will receive value only in direct proportion to what you pay.

It should be remembered that leather prices are soaring on account of abnormal conditions.

While the length of belts may be determined by calculation, it is a better plan when the pulleys are in place on the shafts to actually measure the length using a steel tape and drawing it taut around the pulleys. If the belt is to be crossed then the tape measure will be crossed in the same way.

Belting will stretch when new but the stretch may be anticipated by cutting the belt one inch shorter for every ten feet of length and then stretching the belt over the pulleys using stretching clamps.

Avoid having belts too tight, as undue friction is produced on the bearings of the shafts and it is not unusual to see a bearing that has been worn elliptical through this cause.

Should the belt become slack and fail to pull its loads do not twist the belt in order to tighten it as that action is injurious even to the best leather made, but remove the belt and cut out sufficient material on one end so that the proper tension will be restored when the belt is again spliced.

Belt splicing material may be divided into four kinds, cement, leather, wire and metal stampings.

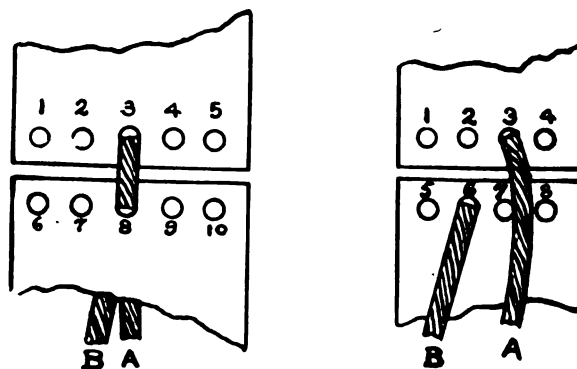
Cement is used very rarely in the ordinary machine or wood shop and usually only on large belts. The operation of cementing is not so very difficult but requires great care in the execution.

The belt that is to be cemented should be stretched over the pulleys and the points of the laps on the outside of the belt should point in the opposite direction to that in which the pulleys rotate. Keep the belt in the center of the clamps and see that it is pulled up straight. Have a board fixed to your stretcher rods long enough to support the entire length of the lap. Fit your lap together by shaving with a sharp knife and see that the leather is clean.

Use a high grade of belt cement, have it very hot but not too thick and apply only to a portion of the lap at a time, only just as much as can be conveniently handled before the cement chills, and rub and hammer the joint thoroughly taking care that no air pockets are left in the lap or eventually they will result in the belt again becoming separated. The cement should be given time, at least an hour in a dry atmosphere to harden thoroughly before running the belt.

In joining the belt with leather rawhide strips are laced through a series of holes punched in the ends of the belting. A very good method known as the "straight stitch" is described in detail.

Cut the ends of the belt to be joined perfectly true with a tee square. Punch one row of holes in each end of the belt. The holes in both ends should be exactly opposite. No holes should be less than one-half inch from the edge of the belt nor nearer the end than one-half inch. The holes should be spaced about three-quarter inches from center to center.



Put ends of belt together. Put lace through holes No. 3 and No. 8, from the grain side, drawing ends of lace even. See illustration No. 1.

Put A lace up through hole 3, down through 8, up through 4, down through 9, up through 5, down through 10, up through 5, down through 10, up through 4, down through 9 and up through 3. Punch the hole with a belt awl and fasten in usual manner directly back of hole 3.

Put lace B up through hole 7, down through 2, up through 6, down through 1, up through 6, down through 1, up through 7, down through 2 and up through 8. Fasten lace in usual manner directly back of hole 8.

These instructions will apply whenever there is an odd number of holes in the row; simply use the center holes. When the width of the belt requires the use of an even number of holes in the ends of the belt, use the following instructions:

Draw the lace up through the holes 3 and 6, bringing the ends even as shown in illustration No. 2.

Put lace A down through hole 7, up through 4, down through 8, up through 4, down through 8, up through 3, down through 7, up through 2. Fasten in hole made with belt awl directly back of hole 2.

Put lace B down through hole 2, up through 5, down through 1, up through 5, down through 1, up through 6, down through 2, and up through 7. Fasten lace back of hole 7 as before.

In using wire as a medium for belt fastening it will be necessary to use a machine. One type of machine used for the purpose consists of three corrugated rolls operated by a crank; a spiral needle is inserted between the rolls and by revolving the crank it is carried through the ends of the belt, making small perforations therein, into which the lacing in the form of coiled wire is afterwards inserted in the same way as was the needle. The coils are then flattened and forced well into the belt and the ends are coupled together by fibre or rawhide cylinders or pins.

This form of joining is very efficient. Another good method of utilizing wire for belting fastening is an inexpensive machine in which wire hooks bent in a triangular form having one leg longer than the other are used. These hooks are very quickly placed in the machine, the squared end of the belt inserted and by depressing the lever the hooks are deeply imbedded in the leather flush with both surfaces, leaving a uniform row of loops extending from the end of belt. When both ends of the belt are treated in this way they are joined by passing a fibre or rawhide pin through the loops.

When metal stampings are used for joining the fastener is made "U" shape and has a series of sharp points regularly spaced on its length, is driven into the belt after the ends have been squared and brought together and is usually accomplished by placing a block of wood under the belt joint and driving in the fastener with a hammer.

Care should be taken to see that the points of the fastener do not project through the under side of the belt. After the joint is made it may be hammered over the pulley to make the joint more nearly conform to the pulley face.

In the interests of "safety first" all belts that must be shifted by hand must be laced with rawhide, and metal fastenings should be carefully avoided.

To keep belting pliable, to prolong its life and obtain the maximum efficiency, care must be used in selecting a good belt dressing. Many good preparations are sold by manufacturers and it should be expected that they would not sell a preparation which would be harmful to their own products; the writer, however, believes that neatsfoot oil properly applied is the best belt dressing obtainable and that the use of rosin should be strictly avoided.

THE CARE OF RUBBER BELTS FOR TRANSMISSION WORK.

Engineering Dept., United States Rubber Company,
New York.

To insure the best results, the first requisite is, of course, the selection of the proper grade and ply of belt for each condition. After this selection is made it is important to see that the pulleys are of the proper diameter and that the belt travels at a proper speed. The pulleys should be accurately lined up, and be properly balanced, and should be increased in diameter proportionately to the thickness of the belt required to transmit the necessary power. The reason for this is apparent—to bend around the pulley the outside of the belt must stretch and the inside compress. The thicker the belt the more stretch and compression. The arc of contact on each pulley represents the abnormal condition of the belt, and the distance between centers the normal condition.

A belt traveling at a high speed changes from the normal to the abnormal condition with great rapidity. It, therefore, follows that the amount of stretch and compression being equal for a certain thickness of belt in a given arc of contact, that the larger the diameter of the pulley, the less stretch and compression per foot, and as the belt remains nearer its normal condition, it should as a consequence, last longer. The face of the pulley should also be wider than the width of the belt, and where there is danger of belt slippage the pulleys should be lagged.

When necessary to increase the power, increase the diameter of the pulley rather than the thickness of the belt, as a light belt on larger pulleys will give better results than a thick belt on small pulleys. If the diameter of the pulleys cannot be increased use a wider belt on wider pulleys to obtain the increased power. If possible avoid tighteners by using proper size pulleys. If a tightener is necessary apply it to the slack side of the belt near the small pulley.

In selecting the proper ply of belt for a given horsepower attention should be given to peakloads, overloads and intermittent loads, as if a belt is required to transmit a great amount of overload, even if only for an instant, it produces slippage, causes the belt to stretch and also will sometimes tear the belt out at the lacing. The best results are also obtained by running the belts with the tight side on the bottom as in that case the belt will operate with a slight sag on top. The distance between centers should not be too great as in the case of heavy drive belts this will produce too much sag, drawing so hard on the shaft as to produce great friction on the bearings, while at the same time the belt will have an unsteady flopping motion, which will destroy both the belt and the machinery.

Great care should be used not only in lacing the

belts, but in using the proper kind of lace, as well as the proper size of lace for the belt. Fast running belts when made endless at the factory give better results as they are always of a uniform thickness. But, where these cannot be put on the pulleys, various kinds of lacing are used. In applying lacing to a belt, whether rawhide or metallic, it is first necessary to cut the ends shorter than the distance around the pulleys, and the belt put on as tightly as possible, by the use of clamps. If lace leather is used for lacing, great care should be used as to the size and spacing of the holes, the size of the lace leather, and how it is put on. A great many of belting troubles can be traced directly to improper lacing. If a metallic lace is used, care should be used in selecting the kind that will operate on the pulleys in each case, also that the proper size of lacing is used for the width and ply of the belt. It should be put on absolutely straight so that the tension is equal through the entire width of the belt. In operating rubber belts, the following rules should be carefully followed:

Keep belts free from oil or grease as this is injurious to rubber.

Do not use belt dressing, especially a belt dressing the base of which is oil or grease, as while it will prevent slippage, it ruins the belt.

Do not operate belts at an excessive speed.

See to it that if belts become too slack they are taken up.

As far as possible avoid vertical transmission as vertical belts require extra tension to obtain sufficient friction on the bottom pulley.

Care should be taken that the tension on all belts is never sufficient to heat the bearings. Excessive tension is very injurious. There are no absolute rules on the subject of tension as conditions vary in each case, but from observation made by competent engineers, the following schedule is suggested:

For 3 ply belts 30 to 40 lbs. per inch width of belt.

For 4 ply belts 50 to 70 lbs. per inch width of belt.

For 5 ply belts 70 to 90 lbs. per inch width of belt.

For 6 ply belts 90 to 110 lbs. per inch width of belt.

For 7 ply belt 110 to 130 lbs. per inch width of belt.

For 8 ply belt 130 to 150 lbs. per inch width of belt.

The mill of the United States Cotton Oil Company, Ashdown, Ark., was recently burned with a loss estimated at \$100,000 to the plant alone. \$200,000 worth of cotton and seed was destroyed.

J. E. Real, assistant manager of the East St. Louis Cotton Oil Company, died recently in St. Mary's hospital, East St. Louis, of a fractured skull suffered when an auto in which he was riding was struck by a Clover Leaf Train.

USE AND ABUSE OF BELT DRESSINGS.

F. H. Small, Chief Chemist,
Graton & Knight, Worcester, Mass.

Belt dressings or preservatives are usually oils, fats or gums—or combinations of two or more such. They may be divided roughly into two classes, first, those whose object is to prevent or lessen slippage—to make belts cling to the pulley; and second, those whose object is to keep the leather of the belts in such condition that the belts will carry the maximum load for the longest time.

The most common examples of the first class are perhaps soap or powdered rosin, which the average workman spreads abundantly on any belt that is slipping. These represent the crudest type of belt dressing. If the dressing is to be marketed at a fancy price something less crude must be devised, and as such devising is by no means a difficult task, examples of this sort of dressing on the market are many and varied. In general, they consist of some sticky material dissolved in some oily solvent and scented with some smell-concealing substance. The black ones usually have tar or asphalt for the sticky material, kerosene, light oil or turpentine for the solvent—and oil of mirbane or citronella for the odorous constituent. Examples of dressings of this sort on the market and which we have tested are one made of two parts asphalt with one of kerosene for the solvent—another of four parts asphalt, two parts wool grease and four parts kerosene; another dressing in this class, but not a black one, of five parts rosin, four cod oil, one castor oil.

The main talking-point of the seller of these dressings is that they make belts cling to the pulley, and the pictures used in the advertisements of such show a belt carrying an overload and running so slack that the loose side is almost touching the tight. Belts treated with these dressings do behave in this way for a time because of the disposition on the surface of the belt of a coating of the sticky solid material of the dressing. This coating, however, immediately begins to gather dirt, collects in lumps on the belt and the pulley, glazes over, and before long causes the belt to slip worse than if it had not been used. To remedy this more dressing usually is put on, which collects more dirt, causes more slip and so on until ultimately the belt resembles a canvas or rubber belt—the leather being no more than the skeleton on which is carried the gummy surface which furnishes the frictional contact.

The only excuse for existence of dressings of this class is as temporary emergency remedies. When a belt is slipping badly because it has not been properly tightened or because of a sudden overload or other similar cause and it is impracticable to apply a proper remedy at the moment, it may be permis-

sible to use a very light application of a sticky dressing purely as an emergency measure. If a dressing is needed for this purpose, rather than use a sticky mixture of the sort described it is far preferable to use a dressing put out by some reliable manufacturer of belting who is hardly likely to place on the market anything which would be injurious to his own product.

We do not recommend or sanction the continued use of any of these dressings as a leather food or lubricant for keeping leather in good workable condition, but it does not harm the leather and as a first-aid proposition for keeping a belt temporarily from slipping it ordinarily will carry the belt safely through the emergency and thus it serves a most useful purpose. For the continued use of sticky dressings there can be no excuse, and with the proper belting no need.

Some of the unhappy results attendant upon the use of dressings of this class are likely to be laps pulled apart and grain peeled off because of the sticking of belt to pulley by the dressing; overstrain of leather due to the use of belts of inadequate size made to carry overloads by use of sticky dressings; uneven frictional contact and belt strain due to accumulation of lumps of dressing and dirt on pulleys and belt; actual damage to leather fibre from components of dressing and from excessive slippage.

Common examples of dressings of the second type are neatsfoot oil, castor oil and dubbin—a mixture of cod oil and tallow. These are used to keep the leather in the best serviceable condition—to keep it pliable, mellow, with a driving surface just sufficiently greasy to have the maximum coefficient of friction. These dressings penetrate the leather and depend for their effectiveness on their action on the leather, while the sticky dressings remain largely on the surface and owe such popularity as they have to the stick. Practically all dressings of this second class cause a slight temporary increase of slippage at the time of application, the amount of this increase depending on the quantity of dressing applied and on the rapidity with which it is absorbed by the leather. If applied in excess these dressings may even cause a belt to run off the pulleys.

So far as concerns its effect on leather, neatsfoot oil is perhaps the best single material to use as a dressing. It penetrates the leather readily, yet leaves an excellent frictional surface; is a splendid lubricant for the leather fibres; keeps the leather tough and mellow. Castor oil, because of its viscosity, penetrates less rapidly and has a tendency to leave a slightly more sticky surface. The cod oil and tallow mixture is similar in its effect to neatsfoot oil, save that it has more body, does not penetrate quite so rapidly and rather more remains on the surface.

It is probable that by proper use of any one of these materials, belting can be kept in excellent condition. In one large mill, for instance, where the belts are in as good condition for rendering efficient service as any of which we have knowledge, the belts have been dressed with nothing but castor oil. Another belt user has been successful with the use of neatsfoot oil. We do not mean to argue that because these materials have been used successfully they are the best to use for dressings, but for the moment we are concerned with emphasizing the point that the trouble with belt dressings of the second class is as a rule not so much with the material as with the application.

Probably two out of every three users of belt dressings do more damage than good to their belting because they use the dressings improperly, the error being almost always one of excessive use. Neatsfoot oil, for instance, makes a good dressing, but the average user puts it on the belt from a can with little regard to how much goes on or where, and because it penetrates quickly he usually gets a belt with greasy streaks, or more likely in time one so saturated with oil that it has lost its lateral stiffness and is like a rag. This not only lessens its ability to transmit power, but tends to weaken the leather fibre, as an excess of any sort of oil is bad for leather. It appears, therefore, that the problem which the producer of a belt dressing must solve if he is to make a good dressing is not merely to prepare a mixture of ingredients that are good lubricants and nourishers of leather, but one which is as little as possible susceptible of improper use.

Because many of the belt dressing questions have to do with method of use full more than with material, let us consider briefly the question of how and when to apply a dressing. First, as to how: The fundamental requirement is to have a clean, leather surface to which to apply the dressing. It is worse than useless to put dressing on a belt already covered with dressing or with dirt and oil. Therefore, remove all excess dirt by means of some sort of scraper—a sharp edged block of hard wood answers excellently—then, if necessary, scrub with naphtha or kerosene, but whether by this or some other procedure, be sure to secure a leather surface that you can recognize as leather.

In our opinion the ideal method of applying a dressing is to put little on the driving surface and more on the surface away from the pulley. A proper dressing will gradually work its way through the leather and give the driving surface the necessary lubrication, causing it to have that mellow feel so difficult to describe but so readily recognizable by the experienced belt user, and which means that the belt is ready to do its best work. Probably the best way of doing this is to rub the belt all over with a piece of burlap or waste covered with the dress-

ing, having steadily in mind that too much dressing is likely to be more harmful than too little and being sure to err on the too little side. No free grease should be apparent on the driving side of the belt when the application is completed.

Probably the best time to apply the dressing is when the belt is idle and when it can stand some time before being used so that the dressing may penetrate into the leather. Penetration is assisted by warming the dressing, but this increases the probability of too much being used. When it is not practicable to apply dressing to the belt while idle, a piece of burlap or waste covered with the dressing may be held to each surface of the belt while running and a thin film of the dressing be deposited on the leather in this way.

Now, as to when to apply a dressing: It is an unfortunate fact that just about all of us fall for good looks. The aesthetic dominates the practical and so a belt that looks well will sell more readily than one that merely pulls well. A new belt which looks greasy is not fancied by the usual buyer, so to please his fancy the leather used in making up belting is prepared of a bright, light color, a result achieved in part by robbing the surface of the grease needed to make it effective for transmitting power. Mechanical tests show that the ordinary new belt will not carry the load that it will after a few weeks' service by from 10 to 20 per cent. It follows that the buyer of such new belting would do well to apply a light coat of dressing in the manner suggested above to the belt before installation and to repeat at frequent intervals until the proper frictional surface is secured. This remark, of course, does not apply to belts which have already been dressed by the manufacturer.

There is another case in which the use of a dressing is really imperative before a belt is put into service and that is when a belt saturated with oil has been degreased by extracting with some solvent such as naphtha. How imperative it is depends on the thoroughness of the extraction process, but belting coming back from a degreasing plant usually has little grease left in it, is dry, harsh and tender and in no fit condition for service. Without fail it should be carefully and rather liberally dressed before being put on the pulleys—the exact amount of the application being governed by the dryness of the leather.

When a belt is once in service no hard and fast rule can be given for the use of dressing. An occasional application will be desirable, but when and how often can be told only by examination of the belt itself. The point to remember is that dressing is not put on a belt so that it may stick the belt to the pulley and thus make it pull more, but it is put on so that by entering into the very fibres of the leather it may toughen them, lubricate them and

thus make the leather capable of doing more pulling and doing it for a longer time. Whenever the leather seems dry, harsh, tinny—does not have that proper mellow feel—you may be sure dressing should be used.

PUTTING THE WAR STAMPS ON A PERMANENT PEACE BASIS.

By James H. Collins

Uncle Sam spent sundry billions of dollars to win the war—more money than any nation ever spent before in nineteen months. Result—an enormous saving in human life and time.

On looking over his war plant, Uncle Sam found various items of salvage—ships for the merchant marine, airplanes for the postal service, motor-truck equipment for sale, along with other physical assets like buildings, clothing, and supplies, and psychological assets like army morale and the new spirit of the nation.

Among these assets was the habit of buying Thrift and War Savings Stamps.

A habit that runs up to one billion dollars in a year, ten dollars per capita, is surely worth maintenance. So Uncle Sam has been studying this War Savings Stamp activity with a view to putting it on a permanent peace basis.

His plans for 1919 are under way.

For one thing, there will be no chief dependence on "drives" or "stunts"—instead we shall have systematic organization.

Appeals to buy stamps for patriotic reason will go hand in hand with emphasis on the solid basis of benefit to whoever buys them.

When the armistice was signed November eleventh, Treasury Officials got a breathing spell, and were able to take stock of the Thrift Stamp enterprise. Or rather, they got a shock. It seemed as though everybody in the United States who had been saving money to win the war felt that the crisis was over. Everybody promptly quit work to celebrate, and money was spent right and left. This was quickly reflected in stamp sales and Liberty Bond payments. Then followed weeks of demobilizing in war industries, and until workers switched over to new employment stamp sales and bond payments showed decrease.

It was found that some of the War Stamp machinery had been created largely on an emergency basis, and operated by excitement. Having won the war, it was assumed both by those who sold and purchased the stamps that the crisis was over. Hadn't Germany disarmed and wasn't the Kaiser in Holland? It was also found that some splendid machinery had been created. Most notable in this line were the 150,000 War Savings Stamp societies, organized for systematic thrift on the group plan. These organizations are scattered all over the

country—in factories, stores, shops, banks, schools, churches, lodges, clubs, and even families. Some of them have half a dozen members, while others run to hundreds and thousands, and require division into units, with group leaders. Practically all of them are alike, however, in that members pledge themselves to invest a stated sum weekly in Thrift Stamps, and there is the element of example and fellowship to help them save regularly. Also, the group has its secretary who sells stamps, and thus both the thrift idea and the best investment in the world (United States Government securities) are brought right up to the cashier's window on pay day.

Some remarkable reports have been received from War Savings societies. In certain factories and stores employees were purchasing what seemed to be a satisfactory weekly quota of Thrift Stamps on the haphazard plan. That quota has been increased 500 to 1,000 per cent. within a week after group saving was begun, with pledges as to amount, and personal supervision by leaders, and the adoption of definite savings plans, such as elimination of luxuries and sane conservation of necessities.

There have been instances where employers viewed the organization of these societies with some distrust, fearing that they might lead to labor troubles. Yet in many such cases employers have testified that group saving, far from causing unrest, has made employees more industrious, and loyal, and definitely decreased that evil of war-time industry—labor turnover.

Treasury officials will now work to make Thrift and Savings Stamps permanent—at least they will be continued as long as the Government must borrow on a large scale. It is believed that group saving can be extended, not only to the great permanent benefit of the nation and its industries, but that by means of Government Savings Stamps much of the ordinary borrowing requirements of the Government can be met in normal times, releasing more highly organized capital for investment in this country and world trade.

There will be great new issues of War Savings Stamps this year and probably in years to come. Redeemable in five years, they form a splendid short-term security, available to small investors, involving no risk and no interest coupons for collections, as is the case with bonds.

Besides safety and convenience for small investors, these stamps have become the most acceptable mediums for saving in this country—if not the world. They are sold at all post-offices, and most banks, and are purchasable from mail carriers in cities and on rural routes. They are also sold in thousands of stores, factories and other places.

The greatest distributing system for merchandise in this country is that through the 350,000 retail

grocerymen who handle food. But Uncle Sam's Thrift Stamp distributing organization during the last year of the war was considerably larger, comprising nearly 400,000 agencies, including 20,000 banks, 215,000 authorized selling agents and 150,000 war savings societies.

The Government will follow sound distributing methods in making these stamps available. By means of new savings societies and the group thrift plan they will be placed even closer to the pay envelope wherever people draw wages and salaries. To meet the needs of people who cannot conveniently join a savings society, the stamps will be placed on sale at well-chosen banks, stores and other points.

Experience has shown that the sale of these stamps by a great many merchants in the same town, each maintaining a booth in charge of an attendant, calls for a considerable investment and expense. But where only a half dozen merchants maintain stamp booths at central points the public can be served just as well, if not better, and the stamp booth may be made to pay its own way by attracting customers for merchandise. Because new supplies of stamps may be obtained daily at banks, the merchant maintaining a stamp agency is called upon for only a moderate investment. Wages for an attendant constitute but a moderate charge in a large business, and where this is a serious item volunteer attendants may be enlisted through local organizations.

It is anticipated that the best results will be secured through group saving, and that even with the widely scattered farm population of the United States, the stamps can be sold regularly through schools, churches, co-operative farmers' organizations and post-offices.

The Thrift and Savings Stamp has come to stay. It was originated during a world crisis, to supplement Liberty Bonds and give people of moderate saving power an opportunity to help finance the war. But its development during the war was so great, and it has accomplished so much good, both for the Government and the nation, that it will undoubtedly be continued long after Liberty Bond issues cease. Even should Government borrowing cease, and make Thrift Stamps unnecessary, the habits of saving and conservation formed by Americans will constitute a great national asset.

Many representatives of foreign industries have recently been visitors to the United States in the interest of the peanut industry, which fact should strengthen the determination of this country to maintain and expand the domestic production of peanut oil. That there is a market and demand is recognized by these repeated visits of foreigners and we could well afford to send trade representatives to a number of the foreign cities to exploit our products.

TEXAS AND THE SOUTHWEST

(Donald Lowrie, Dallas, Tex., Special Correspondent for Oil Miller)

ERADICATING THE PINK BOLL WORM IN TEXAS.

Not One of These Pests Found in the United States During 1918.

Two years ago, when the pink boll worm was introduced into Texas from Mexico there were many who believed that this most destructive enemy of cotton known to man had come to stay. The ravages of this pest in Egypt, South America and Mexico had for years reduced the cotton production by half, without any appreciable results to show for the strenuous efforts made by the cotton growers in these countries to destroy the parasite.

Strict regulations against the importation of cotton plants and diseased seed had kept the United States free from the evil, and when its presence was discovered in Texas, most stringent and vigorous measures were instantly adopted for its quarantine, and toward a possible eradication. The area in which the pest was discovered was immediately taken over by the United States Department of Agriculture. Acting under the provisions of the Federal Plant Quarantine Act, an intensive fight was inaugurated, and carried on without cessation. So complete was the quarantine and the work of eradication that during 1918 not one pink boll worm, egg, larva or moth was found within the quarantined areas or elsewhere in Texas.

An Unparalleled Feat.

The fact that no trace of the pest was found during the past year warrants the belief that the pink boll worm may be ultimately exterminated in Texas, if such is not already the case. If this result is achieved it will be, in the opinion of the United States Department of Agriculture, "the largest successful entomological experiment of the kind in history."

Immediately following the discovery of the insect in Texas, cotton and cottonseed was prohibited from coming into the United States from Mexico; a border control service was organized to prevent the accidental entry of these products by rail; a fumigating service as to cars and freight from Mexico was established, and research work regarding the life, history, habits and the means of control of the pink boll worm was begun in cooperation with Mexico. This work was carried on near San Pedro, in Mexico.

How the Work Was Done.

During the summer of 1918 all of the quarantined districts in Texas were under constant inspection and supervision, and all volunteer or seeding cotton was destroyed. In addition to this, untiring field surveys were conducted in cotton fields adjacent to

the quarantined districts to determine any possible spread of the evil beyond existing quarantine lines.

The regulation of the entry into the United States of railway cars and other vehicles, freight, express, baggage and other shipments from Mexico, and the inspection, fumigating, cleaning, disinfection, etc., of cars and shipments was carried out to the last letter, and every possible avenue was closed against the accidental moving of a particle of cotton or cottonseed into this country. This inspection service covered the entry ports of El Paso, Laredo, Del Rio, Eagle Pass, and Brownsville. During the year 25,257 cars were inspected and passed for entrance, divided among the border inspection points as follows: Brownsville, 1,635; Eagle Pass, 3,836; El Paso, 6,787; Laredo, 12,999.

Methods of Disinfection.

No cars or freight filled with cottonseed were permitted entry until such seed had been entirely removed. This, in many cases, necessitated the transfer of freight to clean cars on the Mexican side, and caused many delays in freight shipments. In addition to this transfer of freight, the cars and the freight itself were treated with hydrocyanic acid gas. This system of disinfecting cars and freight by means of generators placed within the cars was found to be the best available means, but proved unsatisfactory, owing to the condition of the cars, and also to the fact that it gave no assurance against the escape of insects that might be on the exterior of the cars or resting on their motive parts.

The erection of special fumigation houses was authorized last spring, and the cars are hauled into these houses and fumigated in their entirety so that nothing can survive. This work is to be continued indefinitely. There are five of these fumigation houses along the border, their size being in conformity with the railroad traffic at respective points. The fumigating house at Laredo will hold 15 cars; that at Eagle Pass, 8; Brownsville, 6; El Paso, 1. At Del Rio no railroad line crosses the border, but a house is provided to take care of the traffic in wagons and motor trucks.

The government will take no chances against the re-introduction of the pink boll worm from Mexico, and it is believed that the rigid inspection of the area that was infected, but which now seems clear, will be maintained during 1919 in order that there may not be the least doubt of the complete eradication of this deadly pest.

PINK BOLL WORM FOUND IN NEW SECTION.

Following closely upon the announcement that the pink boll worm had been definitely exterminated

TEXAS AND THE SOUTHWEST (Continued)

in the quarantined districts of Texas, information comes from Dr. W. D. Hunter, a member of the Federal Horticultural Board, under date January 2, 1919, that another infestation has been discovered in an entirely different section, remote from those sections where the work of extermination has been carried out so successfully. The new infestation is in West Texas, 400 miles from the area recently released from quarantine for the cultivation of cotton under government supervision. It is evident that the new infestation has absolutely no connection with that which prevailed in South Texas, but originated from the Mexican side of the Rio Grande. Fortunately, the section in which the pest has now been found includes only a small acreage devoted to cotton, and by reason of its isolation will be easily handled in the eradication of the evil. The point in the section of Texas where the infestation has now appeared which is nearest the former quarantined one of South Texas is Boquillas, Brewster County, in the Big Bend section of the Rio Grande Valley, along the Mexican border. From Boquillas to Sandy Point, Brazoria County, the nearest point of the formerly quarantined area, the distance in an airline is more than 400 miles. The announcement of the new infestation was made from Houston on January 1.

PINK BOLLWORM IN PECOS VALLEY.

Not only along the Mexican border has the pink boll worm been found since January 1, but the infestation has appeared at Barstow, in the irrigated section of Ward County, in the Pecos Valley, according to Alex D. Hudson, who is in charge of cotton marketing in Texas, under the Bureau of Markets, Federal Department of Agriculture. Mr. Hudson is a member of the Federal Horticultural Board, in charge of pink boll worm work in Texas.

Mr. Hudson says he has a written report from T. J. Sisk, a county agent for Ward and Reeves counties, stating that a Government man has found the pink boll worm near Barstow, and that an area of perhaps 400 acres has been quarantined in consequence.

"Too much attention cannot be paid to this menace by the Government and State officials, by railroads, seed dealers, farmers, newspapers, and in fact all citizens," declares Mr. Hudson. "Unless controlled, the pink boll worm will in time mean an annual loss of at least \$50,000,000, according to Government estimates. The damage caused by the worm in the Laguna district, Mexico, in 1918, has been placed at 50 to 55 per cent of the crop."

Ward county, where the worm has now been found, is in Southwest Texas, about 100 miles from the Mexican border. It is remote from the sections which have been under quarantine, and which have

been declared free of the pest. Some valuable premium staple cotton is grown under irrigation in the district adjacent to Barstow where the worm has been found.

GENERAL NOTES.

The estimate of 2,580,00 bales of 500 pounds gross weight for Texas is based on 1,235,820,000 pounds of lint, produced on 11,235,727 acres picked of the 11,951,837 acres planted in 1917, according to F. N. Gray, Texas cotton specialist. The average yield of lint cotton per acre is estimated to be 110 pounds. The abandoned acreage was six per cent.

R. F. Crow, assistant to E. A. Peden, Food Administrator of Texas, represented Texas and cottonseed interests in Zone 6 in the conference of Food Administrators and cottonseed men held in New Orleans, December 3.

Centralized marketing of farm products has reached a high state of development in Henderson County, Texas, through the efforts of the Henderson County Farmers' Co-operative Society.

The American Castor-Oil Company, 600 Colcord Building, Oklahoma City, Oklahoma, is in the market for castor-oil machinery, capacity eight to ten tons of castor beans per twenty-four hours.

The Sapulpa Compress Company, of Sapulpa, Oklahoma, sustained a loss of \$700,000 by a fire which destroyed the compress and machinery and 4,900 bales of cotton. The fire occurred early in December.

W. B. Yearly, cotton specialist of the Texas State Department of Agriculture, is urging cotton producers to hold off for 35 cents. "Since the other cotton states are holding for 35 cents," said Mr. Yearly, "Texas farmers should stand pat. Shelter your cotton to prevent damage, and be easy."

OKLAHOMA COTTONSEED OIL MILLS FAIL TO OPERATE.

Less than one-half the number of cottonseed oil mills in the vicinity of Lawton, Oklahoma, have been in operation this season, according to advices received in Dallas, Texas, December 31. Many mills have been acting as importers, rather than exporters—as formerly—in the handling of cake, hulls and meal. It is believed that the proposed reduction of cotton acreage in Oklahoma for next season will result in a continued idleness for a number of the mills next year.

OKLAHOMA COTTON ACREAGE WILL BE GREATLY REDUCED.

Drouth conditions cut the 1918 cotton crop of Oklahoma to about 17 per cent of a normal yield, according to a careful estimate made December 27. The 1919 acreage will be reduced to 60 per cent of normal, due to heavy planting of wheat, and the fact that there is a feeling amongst farmers that the price of cotton is not in proportion to other farm products.

East Texas peanuts sold locally at \$1.65 and \$1.75 a bushel, and averaged about twenty-five bushels an acre on average sandy land. The crop in this section was over 20,000 bushels, but in a normal year the yield is about 60,000 bushels. The production of Spanish peanuts, which are most in demand, offers great opportunities to East Texas farmers because even the poorest sandy land will yield profitable crops of goobers.

COTTONSEED PRICES CANCELLED IN OKLAHOMA.

The new schedule of prices for cottonseed which was to have become effective in Oklahoma during December, was cancelled by Judge C. B. Ames, Federal Food Administrator of Oklahoma, and the old zone system retained. Farmers in the eastern zone of Oklahoma are to receive \$63.50 a ton for cotton seed, and farmers in the western zone will receive \$61.50. Deductions may be made from these prices by the buyer or producer because of damaged or unsound seed. Disputes that may arise over such reductions may be referred to County Food Administrators for settlement.

The new schedule, which was cancelled by Judge Ames, provided for a price of \$53 a ton for cottonseed from December 5 to 16, and a reduction of \$10 per ton after December 16.

BRAZILIAN INTERESTS PURCHASE MURRAY PRESSES.

Mr. O. K. Piquet of the firm of Trajano de Medeiros & Cia of Rio de Janeiro, Brazil, who has been on a business trip to this country for several months has recently closed contracts with The Murray Company, Atlanta, Ga., for five 2-Press Oil Mills. The Brazilian Government has authorized and financed these purchases in their endeavor to promote the growth of cotton in that country and is affording the proper mill facilities for crushing the seed. Heretofore in Brazil, cottonseed has either been used as fuel or otherwise destroyed. The new mills will be equipped throughout with modern machinery of the latest type.

LINTER SITUATION.

Below we quote full text of confirmation letter addressed the United States Food Administration by the Cotton Seed Crushing Industry and the Mattress and Bedding Industry, jointly. This letter confirms the stabilization of linters for the balance of this season.

December 31st, 1918.

United States Food Administration,
Washington, D. C.

Attention Mr. S. J. Cassels.

Gentlemen:

In accordance with our request there was granted a hearing by you today from the War Service Committees of the Cotton Seed Crushing Industry and the Bedding Industry. This meeting was proposed because of our desire to have you stabilize the price of linters which had been rendered necessary by the modification of the linter contract with the Ordnance Department and the Crushers.

As a result of this conference we understand that you are willing to stabilize price of linters on the basis of the agreement reached at the conference, which was to the effect that the grades shall be 1, 2 and 3, as per samples filed with the Food Administration and the price 8½, 7 and 6 cents, respectively, f. o. b. points of production.

As representatives of the two industries involved, we recommend in the interests of all concerned, that these prices be established in accordance with the understanding reached.

Very truly yours,

(Signed) R. E. MONTGOMERY,
Chairman, War Service Committee Inter-State Cotton Seed Crushers' Association.

(Signed) ALBERT J. LOGAN,
Chairman, War Service Committee Bedding Industry.

For your further information we quote telegram received from Mr. R. E. Montgomery, President of the Inter-State Cotton Seed Crushers' Association, as follows:

"Notice of intention to cancel original linter contracts sent out by government done to protect itself against further commitments of munition lint. Supplemental contract now complete as agreed to by committee and approved by Assistant Secretary of War Crowell. All linters on hand December 31st to be paid for by government within twenty days after supplemental contracts are signed by mills, but lint to be held by mills at government risk. Mills with mattress lint on hand December 31st should by no means sell to other than government as they will get six dollars and seventy-seven cents per ton of seed for such lint and keep same from competing with mills own lint produced after January first. Food Administration has stabilized

prices on three grades satisfactory to all mill men here. Type samples can be had from H. W. Bayless, Falls Building, Memphis, Tenn. In meantime I advise that not over seventy-five pounds be cut until types are received as anything lower than that grade will not be merchantable. This all predicated on assumption that mills sign supplemental contract. They, of course, have right to stand on original contract. Mills not permitted to sell lint at less than stabilized prices. Committee is attempting to legally establish central linter selling agency. We are told that government will not take any munition lint under any circumstances made after December 31st. Impossible to have given you any definite information sooner than tonight. Please promulgate this to all mills in your state."

EFFICIENCY BULLETIN.

Again the question of control of the protein content of cotton seed cake is a vital one to the oil mills. For several years the mills have been making a high lint cut. Under these conditions, the problem was to keep the protein content up to standard. Now that the lint cut is reduced the problem that confronts the oil mill is to keep the protein content of cake down to selling grade. We have received samples of cake running 5 per cent higher in protein than guaranteed. The monetary loss is apparent. Constant analyses will enable a mill to prevent such losses.

With a lower lint cut, the separation machinery will have to be changed to fit conditions. Analyses of hulls from different portions of the separation equipment will enable a mill to meet the new conditions quickly, with a minimum amount of loss.

The oil content of the bolly seed received at the end of a season varies widely from year to year. One year the oil content may be as high as prime seed and the next year it may contain a great deal less. The quality of oil from bolly seed is always poorer than prime seed.

Cake Analyses.

	Number Samples	Moisture	Ammonia	Protein	Oil	Stand- ard
Avg. All Mills	1047	8.46	8.15	41.89	6.10	.74
Best Avg. Result		8.81	8.33	42.81	4.81	.57
Worst Avg. Result		7.75	7.25	37.25	7.75	1.06
Avg. This Month						
Last Year	960	8.11	8.23	42.29	6.56	.80
Anal. Avg. last Yr.	4698	7.88	8.13	41.77	6.50	.80

Hull Analyses.

	Number Samples	Whole Seeds and Meats	Oil in Cleaned Hulls	Loss per Total Oil Seed	Stand- ard
Avg. All Mills	243	.00	.55	.62	.07 1.65
Best Avg. Result		.00	.53	.58	.00 1.01
Worst Avg. Result		.00	.92	1.01	.41 2.72
Avg. this Month					
Last Year	467	.00	1.01	1.00	.47 2.90
Anal. Avg. last Yr.	1867	.01	.98	1.16	.52 3.09

Seed Analyses. Calculated Yield. 100 Lbs. Waste.

	Sam- ples	Mois- ture	Gal. Oil Per Ton	Lbs. Cake 8% Amm.	Oil in Seed	Meats
Avg. All Mills	113	10.50	37.7	1047	4.19	17.90
Best Avg. Results		10.95	45.2	1237	4.95	20.87
Worst Avg. Results		9.15	34.3	1022	4.09	16.53
Avg. This Month						
Last Year	112	6.78	37.8	1027	4.33	17.93
Anal. Avg. last Yr.	555	8.05	38.5	1008	4.25	18.18

Oil Analyses.

	Number Samples	Refining Loss	Color Red	Free Acid
Avg. All Mills	32	8.2	6.7	1.9
Best Avg. Results		6.2	5.3	1.6
Worst Avg. Results		15.3	12.9	5.2
Avg. This Month				
Last Year	60	7.2	5.7	1.5
Anal. Avg. last Yr.	468	7.6	7.6	1.8

THE FORT WORTH LABORATORIES,

F. B. Porter, Pres.

Dec. 28, 1918.

OIL MILL CHEMICAL CONTROL BULLETIN REPORT FOR MONTH ENDING DE- CEMBER 15, 1918.

AVERAGE ANALYSIS.

	C. S. Cake and Meal				Cotton Seed Hulls Total			
	Moist.	Am.	Oil		Moist.	Oil	Lint Gals.	Am.
Avg. All Samps	8.92	8.24	5.85	11.90	17.46	45.90	46.5	4.21
Avg. Highest Samps	8.23	9.46	6.40	7.92	21.05	41.10	56.0	4.06
Avg. Lowest Samps	10.07	7.21	5.80	13.05	14.21	51.60	37.9	4.14
	C. S. Hulls				Crude C. S. Oil			
	Whole Seed	Oil in	Total		Refining	Color	Free	Fatty
	and Meats	Hulls	Oil		Loss	Red	Acids	
Avg. All Samps	None	0.53	0.53	9.0	6.8	1.7		
Avg. High. Samps	None	0.25	0.25	6.4	5.6	1.5		
Avg. Low Samps	None	1.50	1.50	8.3	8.3	1.6		

HOUSTON LABORATORIES.

P. E. Tilson, Chemist.

Houston, Texas, December 15th, 1918.

THE JEFFERY MANUFACTURING COMPANY'S CATALOG.

One of the very finest catalogs which has come to our desk for some time is that of The Jeffrey Manufacturing Company, Columbus, Ohio, describing their line of Jeffrey Bucket Elevators.

Elevators for conveying practically any material are not only splendidly illustrated but working drawings and dimensions accompany the illustrations. Oil mills contemplating purchasing elevators will be sure to find exactly what they need to meet their particular requirements.

A copy of the catalog will be mailed on request to the manufacturer.

AN INTERESTING BOOKLET.

It will certainly pay every oil mill superintendent to write to The Dearborn Chemical Company, McCormack Bldg., Chicago, Ill., for their booklet entitled "The Prevention of Rusting or Corrosion of Iron and Steel." It is excellently printed and contains much useful and valuable information.

COMPARATIVE REPORT LAW & COMPANY, INC., ATLANTA, GA.

To Our Oil Mill Friends:

We are sending you our report of November averages which, except for seed records, is the first monthly average we have issued this season. We were unfortunate in having our organization badly broken up at the very beginning of the season and shortly afterwards afflicted with a scourge of influenza. The unusual demand for chemical work made it very evident that we would have to give every moment of our time and attention to analyses in order to secure our usual prompt and accurate service. We are gratified to state that the record of the season shows that we have succeeded wonderfully with the accuracy of our work. Although we have already analyzed over eighteen thousand samples the errors or corrections necessary have been almost negligible. The fact that we have not succeeded quite as well in giving prompt returns is due entirely to inadequate mail facilities, which is no fault of ours.

We now have constructed and in process of construction the best organization we have ever had though it has doubled our salary and labor cost to secure it. The September and October average reports are being calculated and will go to you as soon as possible. It is necessary to make them up for our annual report and they will complete your files. The December report will be out early in January and hereafter you can expect them regularly.

We are having so much difficulty with mail deliveries that we are anxious to work up some real data to submit with hopes of improvement. If those of you who are suffering most will keep a record of the time of mailing each sample for a week and let us keep a record of the time of receipt here, it should give us something tangible to base a complaint upon. By co-operation and effort to get these samples away from your mill in plenty of time to catch the afternoon trains, we hope to improve this condition.

We wish to take this opportunity of thanking our many clients who have been fair enough to realize that the inconveniences caused by delayed reports, etc., were no fault of ours and who have shown such patience in this, as well as the many other sacrifices we have all been called upon to make.

As a slight expression of our appreciation and to wish you all a Merry Christmas and a most prosperous 1919, we are mailing you a calendar with one of our famous Ferris colonial pictures, which is bigger and better than ever this time.

Very truly yours,
LAW & CO., INC., Chemists.

NOVEMBER AVERAGES.

November comparisons for eight years are as follows:

Nov.	COTTON SEED MEAL.				PEANUT MEAL.			
	Mols.	Oil.	Amm.	Stand.	Mols.	Oil.	Amm.	Stand.
1911	7.98%	7.49%	7.71%	0.97				
1912	8.08	8.16	7.62	1.07				
1913	8.24	7.38	7.48	0.99				
1914	8.34	7.25	7.53	0.96				
1915	8.93	6.52	7.20	0.90				
1916	8.60	6.26	6.66	0.94				
1917	8.19	6.46	7.05	0.92	6.83%	7.78%	7.36%	1.06
1918	8.51	6.57	7.01	0.94	7.06	6.83	7.23	0.95

There is no decided variation for the past three years except that which is naturally due to variation in composition of seed. On the same basis yield results are not quite as good this season but that can be attributed to the inefficient labor conditions that most of the mills are contending with. Peanut meal shows a decided improvement and that is doubtless due to more experience with this particular phase of the industry.

COTTON SEED HULLS.				PEANUT HULLS.			
Nov.	Uncut Seed.	Oil.	Stand.	Uncut Nuts	Oil.	Stand.	
1911	0.43%	0.69%	2.01				
1912	0.46	0.86	2.48				
1913	0.28	0.68	1.92				
1914	0.24	0.65	1.83				
1915	0.18	0.51	1.43				
1916	0.45	0.58	1.73				
1917	0.28	0.56	1.65	0.00	0.69%	1.84	
1918	0.22	0.52	1.45	0.00	0.66	1.76	

This report indicates that separation is as good as it ever was. Since the report was closed a number of the mills are trying to return to a 75 pound lint cut and the next report is apt to show quite a falling off in this good work. We recommend very close attention to this feature until the machinery is properly regulated. It will be necessary to change the setting of the first hullers to get best results and it might be well to have samples from this machine tested a few times.

Peanut hulls show up fairly well, but that figure is also much higher since this report closed as more mills are now crushing nuts. It is a feature that should be very closely watched for an enormous loss can occur there.

Nov.	COTTON SEED.				PEANUTS.		
	Avall. Gals.	Avall. Gals.	Avall. Lbs.	Best Wk. Avg. Wk. 7% M.	Avall. Gals.	Avall. Gals.	Avall. 7% M.
1911	44.4	42.9	969				
1912	42.9	41.4	913				
1913	45.9	44.4	934				
1914	43.9	42.4	947				
1915	43.9	42.4	956				
1916	45.5	44.0	926				
1917	44.2	42.7	932		83.3	81.3	1112
1918	44.3	42.8	1004		79.8	77.8	1134

This month's yield should be very nearly the same as last season, but bear in mind that this is only for the month of November. The total average to date is not near so good as last year. Due to an exceedingly dry fall the moisture in seed is very low for this month and that has increased the available yield considerably.

Respectfully submitted,
LAW & COMPANY, Inc., Chemists.

COTTON—ITS PRODUCTS AND THEIR USES.

The uses and abuses of cotton, its many wide and varied forms have been told in song and fable so many times that little new can be said on the subject. Still those most interested and who know the subject best never grow tired of the story for there is a peculiar fascination attached. In a recent issue of the Southern Ruralist the following version of the story appeared:

The cotton planter has been severely criticized, even by his neighbors, as "a one-crop man," and yet so many and so varied are the uses to which cotton is put it can be appropriately called a *multum in parvo* crop. I doubt if even those who grow it and use it really appreciate how greatly cotton enters into the affairs of life, in all countries and conditions. Recently I was talking with the superintendent of one of the largest cotton mills in the South as to the variety of goods he manufactured, and then the talk drifted into the great number of articles manufactured from cotton, and here is the result:

Clothing—From head to foot, there is scarcely an article in which cotton is not used. The lining of the shoes, for not only is canvas used, but much of the patent leather now has cotton cloth as a base. Dress goods are largely made of cotton, and much that passes for silk is mercerized cotton. The silk stripes in men's fancy shirts are made from cotton waste. Men's summer clothing is not only mostly cotton, but their so-called woolen winter clothing has an admixture of cotton, and so slick have the manufacturers become that they take cotton cloth and put a thin woolen coating on it. Your garments are put together with cotton thread. Just take an inventory of your clothing. Nor is cotton cloth confined to the civilized nations, for it was one of the first and principal articles used to barter with the savages.

In the Household—Take the bed, the ticking of the mattress is woven from cotton, the filling of the mattress is cotton, and so are sheets, pillows and pillow cases, coverlet, comfort, and most of the blankets, even the netting which protects you from mosquitoes. Table spread, napkins, towels, curtains, a large proportion of the carpet, the wick in the lamp, or the electric cord that connects the bulb or the fan or telephone is cotton knitted around a wire. The books in the library have their binding in cotton cloth. The compound with which you cook your food, the mayonnaise dressing on your salad, and the soap with which you bathe are made from oil of the cotton seed.

Travel—If you wish to take a trip you get into an automobile the base of the tires of which is cotton, as is the top and the covering of the cushions.

You may think that your traveling bag is made from Russian leather, but a close inspection may disclose that the manufacturer has camouflaged cotton canvas; your trunk is covered without and lined within by cotton, and your raincoat would fall to pieces were it not for the cotton in it.

If you go shopping your parcels are tied up with cotton twine, and if in a dry goods store ninety per cent of your purchases will be of articles manufactured of cotton. I asked a merchant to give me a list of the articles he handled which were made of cotton—he said he would have to take a day off, and then would probably forget something.

If you are so unfortunate as to have an aching tooth, the dentist will fill the cavity with cotton dipped in tincture; or if you should have a broken bone, gaping wound or suppurating sore the surgeon will bind you up in cotton bandages and use absorbent cotton.

The cotton farmer harnesses his mule with a cotton collar, backband and rope lines and when he picks his cotton places it upon a cotton sheet manufactured expressly for the purpose. The grain farmer riding on his binder is protected from the hot rays of the sun by a cotton awning his horses protected from the flies by cotton nets, and he ships his grain to market in cotton bags. The tobacco planter shades his fine cigar wrapper crop with cotton cloth. The dairyman covers his cakes of curd with cotton cheese-cloth. The rice miller sends his pearly grain to the market in "pockets" of cotton. The manufacturers of flour, sugar and salt market their products in cotton sacks. The sailor carries the cotton, the grain, the rice, the tobacco, the cheese, the flour, the sugar and the salt to foreign shores, his craft propelled by wafting winds caught in sails of cotton.

The soldier is clothed in a uniform of cotton khaki, carries his munitions in a cotton cartridge belt, and is sheltered by a cotton canvas tent.

And the last end of man, when he "shuffles off this mortal coil," is to be wrapped in a cotton shroud.

FORMER SKF MAN TAKES NEW POSITION.

Horace N. Trumbull, who has recently received his discharge from the Engineers Officers' Training School at Camp A. A. Humphreys, Va., has been appointed Advertising Manager of the Wellman-Seaver-Morgan Company, of Cleveland, Ohio.

Before entering the service, Mr. Trumbull was Advertising Manager of the SKF Ball Bearing Company, of Hartford, Conn.

The Crystal Springs Oil Mill & Fertilizer Co., Crystal Springs, Miss., has been purchased by C. M. Huber. Improvements will be made.

"The Link's" initial appearance must have been warmly greeted by the Berger and Carter Company's salesforce. It is full of wit and witticisms, clever cartoons with good common sense articles in just the proper proportion to make a house organ eagerly looked for each month. Here is to its growth and prosperity throughout the New Year.

We are indebted to The Howe Scale Company, Atlanta, Ga., and The Oil Mill Gazeteer, Wharton, Texas, for charming Christmas Greetings, and we are sure all their friends appreciated being so remembered.

Handsome pictorial calendars have come to our office from Law & Company, Atlanta, Ga., and the Fort Worth Laboratories, Fort Worth, Texas, either of which any firm might be proud to distribute. We congratulate both firms on their excellent selections.

For the handy desk calendar memo. pad which Weller Manufacturing Company, Chicago, sent us, we have constant and daily use and are sure that if others appreciate this pad as much as does The Oil Miller, it must be a very popular form of advertising.

The San Antonio Machine & Supply Company, San Antonio, Texas, illustrate on their calendar in colors, their plant, which gives everyone a splendid idea of the magnitude of this business and shows a plant which indicates good quality and efficiency.

The Mount Gilead Cotton Oil Co., Mount Gilead, N. C., show wisdom in sending out the calendar which has been for so many years identified with them by the cotton oil trade. It is always welcome.

Anticipating the need of calendars, The Coleman Oil Co., Coleman, Ga., took time by the forelock and issued a calendar in October when everyone was glad to have a new clean calendar, which ended up the old year and ran on through 1919.

The Lunkenheimer Company, Cincinnati, Ohio, are issuing one of the large daily sheet calendars for which there is always a place in every office.

The property of the G. M. Cochran Oil Mill, at Boston, Ga., was bid in at the recent sale there by the Southern Banking and Trust Company of Valdosta, for \$30,000. This company held a second mortgage on the property. It is reported that parties from Fort Valley may arrange to take over the oil mill property at Boston and open it up again.

DANISH OIL SUBSTITUTES.

The various industries in Denmark requiring vegetable or animal oils in the manufacture of their products have been handicapped during the past eighteen months by a shortage of materials. This has naturally led to attempts at substitution. These efforts, while not producing satisfactory results in many instances, are at least interesting as experiments.

Closely connected with the efforts to find oil substitutes are the efforts to find substitutes for the feeding stuffs usually produced from the same raw materials as the oils. For instance, both oil and cake were formerly made from the soya beans, which were imported into Denmark in considerable quantities from Asia. No consignments of soya beans or other oil seeds have arrived in Denmark for more than a year, and factories dependent normally upon the importation of such products have been directing the attention of farmers to the cultivation of oil-producing seeds to replace these imports.

Experiments were made about a year ago with oil obtained from sunflower seed. The oil was found to be edible and capable of being used in making margarine, but the growing of sunflowers on a large scale for this purpose was not profitable. Experiments are now being conducted with a view to using sunflower oil in making varnish for linoleum.

The Industriraadet and the Committee of Forestry have evolved a plan for collecting beechnuts throughout the country. These nuts yield a palatable edible oil. Inasmuch as a considerable quantity of the nuts can be had and high prices are offered for collecting them, a rather large amount of oil from this source is expected this year.—National Provisioner.

SPAIN REGULATES EXPORT.

A royal order published in Spain on September 16, 1918, authorizes the formation of a committee to regulate the domestic supply of linseed oil and linseed cake. This committee is composed of two representatives of linseed oil mills, two representatives of painters and two representatives of the Association of Cattle Raisers of the Kingdom, and will have for its president the acting president of the Commission for the Distribution of Taxable Construction Materials.

The functions of the committee will be to investigate petitions for the export of linseed oil and cake in their relation to the domestic supply and to report to the Ministry of Supplies. No export licenses for linseed oil and cake will be granted to manufacturers of these products who are not recognized by this committee.—National Provisioner.

TRINIDAD'S COCOANUT INDUSTRIES.

The cocoanut estates of Trinidad, although confined within comparatively small portions of this island by the seacoast, are apparently yielding greater profits on the small capital invested in them than any other agricultural industries of the island. As there is constant planting of new trees, the industry is bound to expand greatly in importance during the next few years.

During the year 1917 there were exported from Trinidad 16,595,282 cocoanuts locally grown, valued at \$441,565, and also 760,430 foreign cocoanuts, chiefly Venezuelan, valued at \$20,975, making a total of 17,355,712 cocoanuts, valued at \$462,540. Most of these were shipped to the United States, the declared exports at this consulate showing that during the year 1917 the United States imported from Trinidad 13,867,655 native cocoanuts, valued at \$398,912, and 696,100 Venezuelan cocoanuts, valued at \$22,806.

The exports of copra in 1917 amounted to 7,201,448 pounds, valued at \$533,396. The declared export returns of this consulate show that 3,277,258 pounds, of the value of \$228,055, were exported to the United States. All the copra exported from Trinidad in 1917 was locally produced.

Trinidad also produces approximately 140,000 gallons of cocoanut oil per year for consumption

of the local population, especially of the East Indian coolie classes, who use it as a food, and also as a lotion for their bodies. The amount of cocoanut oil produced depends to some extent upon the relative price of copra, for when the export price of copra offers more profit than the manufacture of the same into cocoanut oil, the owners of the cocoanut oil factories, most of whom make copra before they make the oil, prefer to sell the copra for export. The local government, however, would never permit such large export of copra as would result in serious curtailment of cocoanut oil production, but if necessary would impose embargoes to keep sufficient copra in the country to assure continued production of the oil, which is recognized as an economic necessity for the poorer classes of Trinidad. It was to prevent threatened curtailment in the output of cocoanut oil, as well as to increase the revenues of the Colony, that the export duty on nuts was raised in May of this year from \$0.90 per 1,000 to \$4, and the export duty on copra also was increased from \$0.20 to \$1.22 per 100 pounds. The East Indians in Trinidad, who include roughly about one-third of the total population of 368,000, have religious prejudices against the use of lard or other animal fats, consequently they must use vegetable oils, and cocoanut oil is the most readily available.—National Provisioner.

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J. Webb Howell, President, Bryan, Texas.
Robert Gibson, Secretary, Dallas, Texas.

Louisiana Cottonseed Crushers' Assn.
Geo. C. Hauser, President, New Orleans, La.
Bryan Bell, Secretary, Box 646, New Orleans, La.

National Oil Mill Superintendents' Association.
P. Z. Harlee, President, Birmingham, Ala.
F. P. Morris, Secretary, Purcell, Okla.

Oil Mill Machinery Mfrs. & Supply Assn.
R. R. Nolen, President, Dallas, Texas.
W. H. Marshall, Secretary, Dallas, Texas.

Inter-State Oil Mill Superintendents' Assn.
T. T. Wolfenden, President, Washington, Ga.
Fred Strickland, Secretary, Anderson, S. C.

Oil Mill Superintendents' Exhibitors Assn.
W. H. Camp, President, Atlanta, Ga.
S. A. Pardee, Secretary, Atlanta, Ga.

Arkansas Cottonseed Crushers' Association.
A. G. Kahn, President, Little Rock, Ark.
P. F. Cleaver, Secretary, Little Rock, Ark.

South Carolina Cottonseed Crushers' Assn.
Russell Acree, President, Darlington, S. C.
W. B. West, Secretary, Columbia, S. C.

Oklahoma Cottonseed Crushers' Association.
E. Cook, President, Guthrie, Okla.
J. H. Johnson, Secretary, Oklahoma City, Okla.

Tennessee Cottonseed Crushers' Association.
J. H. DuBose, President, Memphis, Tenn.
A. G. Perkins, Secretary, Memphis, Tenn.

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OIL MILL MACHINERY SUPPLIES AND REPAIRS

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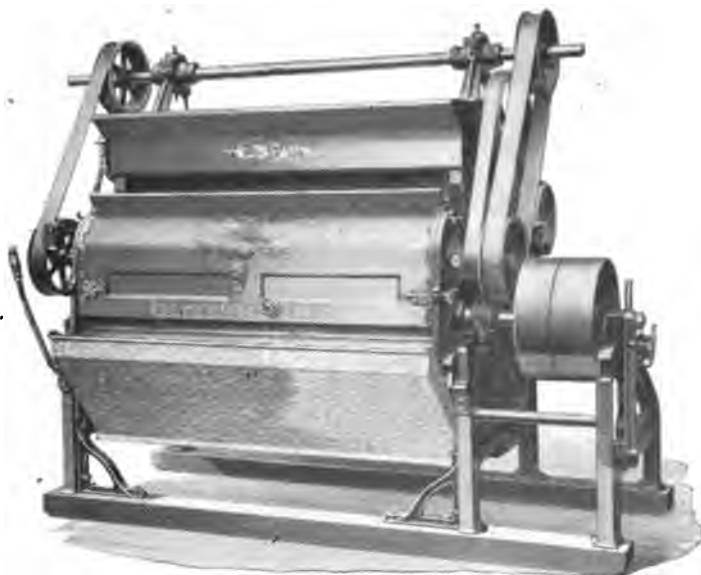
Conveyor and Appurtenances,
Sprockets and Chain
Perforated Metal,
Huller and Meal Mill Plates,

Gummer and Linter Saw Files,
Hydraulic Pumps, Pipes and Fittings,
Shafting, Pulleys and Hangers,
Boilers and Tanks.

We Regrind Crusher Rolls.

Try Our "OIL MILL SPECIAL" Leather Belting and Babbitt Metal.

Our Latest Modle Linter



Independent Drive

High Speed

Ball Bearing

The Record for Close Delinting

Write for our *Special Bulletin* fully describing the Linter that should be in all Oil Mills.

Continental Gin Company

Atlanta, Ga.

Birmingham, Ala.

Charlotte, N. C.

Dallas, Tex.

Memphis, Tenn.



Huller (open)



Huller (closed)

The AMERICAN Self Setting Ball Bearing Knife Huller

IF you want the best separation,
The least absorption loss,
The least amount of finely cut hulls,
The least power consumption,
The least cost of up-keep,
The least danger of fire,

THEN you want an "AMERICAN" Huller.
It can be trammed while running.
Can be set up complete in thirty minutes.
Has double safety, can not be wrecked.
Breast Plates of best chilled steel.
Knives can be reground if desired.
Discharge spout is self cleaning.
Double safety release permits foreign matter to pass without injury to the machine, the breast returning instantly to position, preventing spillage of seed.

REMEMBER, "AMERICAN" machinery means EFFICIENCY

Write for bulletin of "AMERICAN" Seed Cleaning, Separating, and Press Room Equipment.

AMERICAN MACHINE and MANUFACTURING CO.
GREENVILLE, S. C., U. S. A.

Three Reasons

For an Oil Mill Installing Expellers

FIRST--An EXPELLER MILL will crush a ton of seed at **Less Expense** than any other equipment. No press cloth is required. Less labor is needed.

SECOND---An EXPELLER MILL can do **uniformly better work** than any other equipment. Less oil is left in the cake. Better oil is made. Press cold if necessary.

THIRD---An EXPELLER MILL can **work any oil-bearing seed, nut or bean** with practically no change in the press room.

The Expeller System is the American System

The Burruss Engineering Company

Sales Agent for the Anderson Expeller

Empire Building

Atlanta, Georgia

The Picard Laboratories

(D. C. Picard, B. Sc., M. A.)

**Analytical and Consulting
Chemists.**

Specialties :

**Cotton Seed Products,
Fertilizers, Feeds,
Fuel and Water.**

EXPORT AND REFEREE WORK.

1911 First Avenue, Birmingham, Ala.

"SCANDINAVIA" BELTING

Supreme in Oil Mill Service!

**Over 350 Oil Mills, in the Southeastern States
alone, use Scandinavia Belting.**

Oil, Water, Steam and Dust Proof.

**Best for Transmission, Elevator or
Conveyor Service.**

Backed by a Remarkable Guarantee.

**SOUTHERN STOCKS ARE CARRIED BY
SCANDINAVIA BELTING CO.,
78 North Pryor St., Atlanta, Ga.**

YOUNG & VANN SUPPLY CO., i n g h l a

REED & DUECKER.

MEMPHIS, TENN.

Oil Mill Machinery and Supplies

**Everything from Foundation
to the Top of the Smokestack**

**BAUER BROS. CO.
BUCKEYE IRON &
BRASS WORKS.
CHANDLER CONST. CO.
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WELLER MFG. CO.
BURNHAM PUMPS.
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**LARGE STOCKS
PROMPT
SHIPMENTS**

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**U. S. Oak Tanned Leather Belting
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OLD BELTS

**Made New by our Process; send them to us. By
doing this your belt will last twice as long and will
transmit 33 1-3 per cent more power.**

WRITE US

**LARGE
STOCK
LEATHER
BELTING
1 to 48 in.**

**Reed & Duecker
Memphis, Tenn.**

Lubricants
that are cheap
in price are
seldom cheap
at the price
like



Lubricants for Oil Mills

When you are induced to buy a job of "good quality" oil at a low price, your incentive naturally is to save money.

But the modern oil mill man knows that it is not true economy to buy unknown lubricants that have no proven lubrication value, and may even be entirely unsuited to the mill machinery.

Modern practice has shown that NON-FLUID OIL oil-mill lubricants made from the finest crude will not drip nor spatter like oil, therefore last 5 to 6 times longer, saving lubricant—preventing bearings from running dry and heating up—and cutting down the number of trips with the oil can.

For over twenty years NON-FLUID OIL has been widely used in Oil Mills with the most satisfactory results both for perfect lubrication and economy.

Write today for free testing samples and interesting descriptive matter. NON-FLUID OIL actually costs less per month for better lubrication.

NEW YORK and NEW JERSEY LUBRICANT COMPANY

165 Broadway

NEW YORK

Branches: Atlanta, Ga. Charlotte, N. C.

Lewis W. Thomason, District Manager, Charlotte, N. C.

A Friendly Act

One day a man walked into a branch office of the National Cash Register Company, and asked the manager if he had a machine which would do certain things, which he specified. The manager replied, "Well, if you could get a machine to do all that you would be willing to pay a \$1,000 for it, wouldn't you?" "I certainly would," replied the man.



Medart "Hercules" All-Steel Pulleys are for Special Heavy Duty and Shock Load Service. Guaranteed on the money-back basis. Built to suit horsepower conditions, in any size wanted up to 16 feet diameter and 50 inches face, either solid or split construction.

The manager sold the prospect a cash register—not charging him \$1,000 however—which the man had stated a willingness to pay for service—but \$675, the actual selling price.

Have YOU not, on the occasion of the failure by breakage or distortion of a Pulley caused through extra hard usage in your plant, said to yourself, "I'd give a great deal to get hold of a pulley that would permanently solve this problem of annoyance and expense!"—?

Here's just exactly such a Pulley—the Medart "Hercules" All-Steel Pulley—the Master Pulley; the strongest, the most durable pulley made anywhere by anybody, especially conceived, designed and built, and successfully used by a wide variety and great number of industries throughout the country for extra heavy duty service and for withstanding constantly recurring shock or "hammer-blow" loads. It is built to, AND WILL, absorb punishment!

FOLLOW THEIR LEAD AND BE SURE!

Write to any of the following users for their direct opinion:

Alton Box Board Co.
American Strawboard Co.
Ash Grove Lime & Portland Cement Co.
Bodecaw Lumber Co.
Continental Portland Cement Co.
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The Dow Chemical Co.
Tonopah Placer Co.
Union Cotton Oil Co.
U. S. Gypsum Co.
U. S. Powder Co.
Yukon Gold Co.

The Medart "Hercules" All-Steel Pulley is built in all sizes and styles up to 16 feet diameter by 50 inches face; it is sold on a money-back or free replacement guarantee basis that it will do the work.

If desirous of having prices on definite sizes tell us (1) Nature of load; (2) Horsepower of be handled; (3) Speed of pulley; (4) Shaft size, and (5) Whether pulley is wanted solid or split construction.

Further facts will be gladly submitted upon receipt of request.

MEDART PATENT PULLEY COMPANY

Manufacturers for 40 Years of the Most Complete Line of Power Transmission Equipment.

Works: ST. LOUIS, MO.

PHILADELPHIA

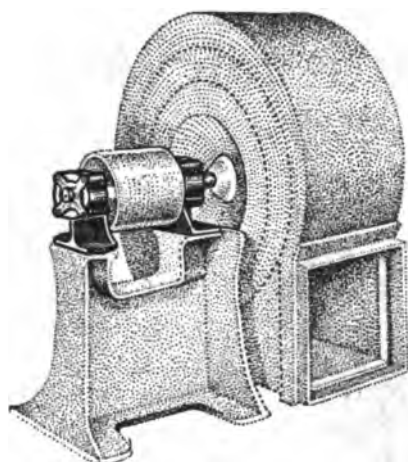
CHICAGO

CINCINNATI

BALL BEARINGS

Replace
Your Plain Babbited Bearings
with

S. K. F. BALL BEARINGS



FAN EQUIPPED WITH BALL BEARINGS

Replacement easily and quickly made. Results saving in power, lubrication, time, attention. No interruptions or shut-downs. Great saving in fan belts. Full instructions for applying shipped with bearings.

If interested please fill in as below and mail to us.

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INFORMATION

NECESSARY FOR EQUIPPING FANS WITH
BALL BEARINGS

Make of Fan
Diameter of Fan Diameter Fan Shaft.....
Center of Shaft to Bearing Base on Pedestal.....

Size and Number of Bolts in Bearing Base

Bolt Spacing on Bearing Base

Remarks:

Bailey-Burruss Mfg. Company

ELEVATING, CONVEYING, TRANSMISSION, Etc.
OIL MILL MACHINERY.

ATLANTA

GEORGIA

"SALEM" ^(SALEM MADE) BUCKETS

Have Quality, Capacity, Easy Fill,
Clean Delivery and Endurance.



Know them by the Originator's address in a circle on the front. Insist on this stamp.

Sold by all Dealers and from our factory; let us mail our list and discounts.

We ship Regular buckets at sight of order and are exceptionally equipped to make up heavy buckets to order. Let us quote prices on anything in the bucket line.

The W. J. Clark Company
SALEM, OHIO.

Please mention this paper.

All Farm Products will Remain High for Years to Come.

Just Think of it!

Short Cotton at	30c lbs.
Long Cotton at	75c lb.
Cotton Seed at	\$85.00 ton
Peanuts at	\$125.00 ton
Corn at	\$2.00 bu.
Live Hogs at	18c lb.
Syrup at	\$1.00 gal.

Why not buy a small farm in South Georgia and work it yourself. One crop, at half the prices for the above products, will pay for it.

Spend the winter clearing a few acres. One man can clear one acre a day, average new cut over land along the A. B. & A. Railway.

South Georgia lands are cheap. Now is the time to buy.

For list of farms for sale and other information, ask

W. W. CROXTON, G. P. A.
A. B. & A. RAILWAY,
ATLANTA, GA.

ELLIS COTTON SEED DRIERS

BALL BEARING EQUIPPED

Dries and cools uniformly
and automatically

All steel construction with
semi-steel castings.

Built for service.



ABSOLUTELY GUARANTEED

Drying capacities from 50
to 250 tons in 24 hours.

Feed and discharge con-
tinuous and automatic.

Write for full particulars.

100 Ton Self-contained Drier.

WE ALSO MANUFACTURE GRAIN, MEAL AND PEANUT DRIERS

THE ELLIS DRIER COMPANY, Chicago, Illinois

It's a Paying Investment

to buy ***Jewell Chrome Leather Belt***. The first cost may be higher than that of other beltings, but the longer life of this belt under severe strain and adverse conditions has proved to the oil mill men who have used it that it is the most economical belt they have used. The tensile strength of the ***Jewell Chrome Leather Belt*** is very much greater than that of first class oak tanned leather belt. Because of its flexibility it gives greater pulley contact than any other belt, and transmits more power with less slip than any other leather belt. It is waterproof, steamproof and oil-proof.

The ***Jewell Chrome Leather Belt*** is not an experiment. It has been on the market over fifteen years and has demonstrated beyond a doubt its superiority over other kinds of beltings.

Try it on your linters, on your fans or any other place where you really need a good belt. You will be satisfied.

Any of the jobbers listed below can supply you.

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JEWELL BELTING COMPANY

Tanners and Manufacturers of Oak Belting, Chrome Belting and Lace Leather.

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Elevating, Conveying
and Power Transmitting Machinery

— FOR —

COTTON SEED OIL MILLS



HELICOID SCREW CONVEYOR
ELEVATOR BUCKETS—BOOTS
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SHAFTING—BEARINGS
PULLEYS—REELS
ROPE SHEAVES
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CHICAGO, 17th Street and Western Ave.

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Our Complete Line of Improved Press Room Machinery

Will ensure the greatest economy in the use of steam, power, press cloth and labor, and will produce brighter cake and meal, and a greater yield of oil with lower refining losses. We manufacture



4-Cylinder Power Pump



Crushing Rolls
Plain or Ball Bearing



McNulty Cake Stripper.



Hydraulic Cake Former

Automatic Continuous Cookers.
Hydraulic Cake Formers.
Power Hydraulic Pumps.
Accumulators.
Cake Trimmers.
Faherty Huller Knives.
Cake Packers.
McNulty Cake Strippers.
Cooker Drain Pumps.
Cottonseed Presses.
Safety Steel Press Boxes.
Steel Press Cylinders.
Automatic Change Valves.
Cake Coolers.
Hydraulic Fittings.
Crushing Rolls.

If interested in better results write

**The French Oil Mill
Machinery Co.**
Dept. B. PIQUA, OHIO

REPRESENTATIVES:

PAUL WATSON, 2608 Avenue O, Galveston, Texas.
M. W. FAHERTY, Box 142, Memphis, Tenn.
TOM R. BROOKE, 615 Empire Bldg., Atlanta, Ga.



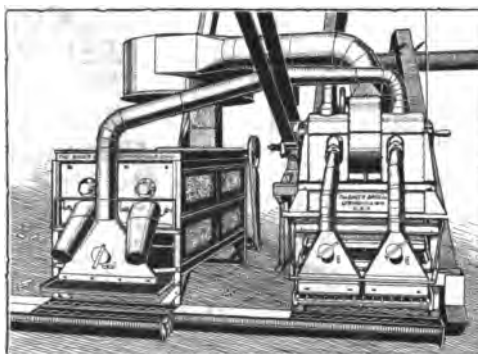
Automatic Change Valve



Automatic Continuous Cooker

Bauer

SCIENTIFIC



Chemists say:

"That lint in meats means loss of oil in pressing." The designers of **The No. 153 Bauer Separating Unit** know that the Chemist is right and that economical business management demands "The Stopping of Leaks."

THE NO. 153 BAUER SEPARATING UNIT positively separates the meats from the loose lint and hulls, delivering the meats—**CLEAN**—ready for pressing.

Its adaptability for handling PEANUTS makes its service doubly valuable to The Oil MILLER.

A CAREFUL INQUIRY BY YOUR CHEMIST IS SOLICITED.

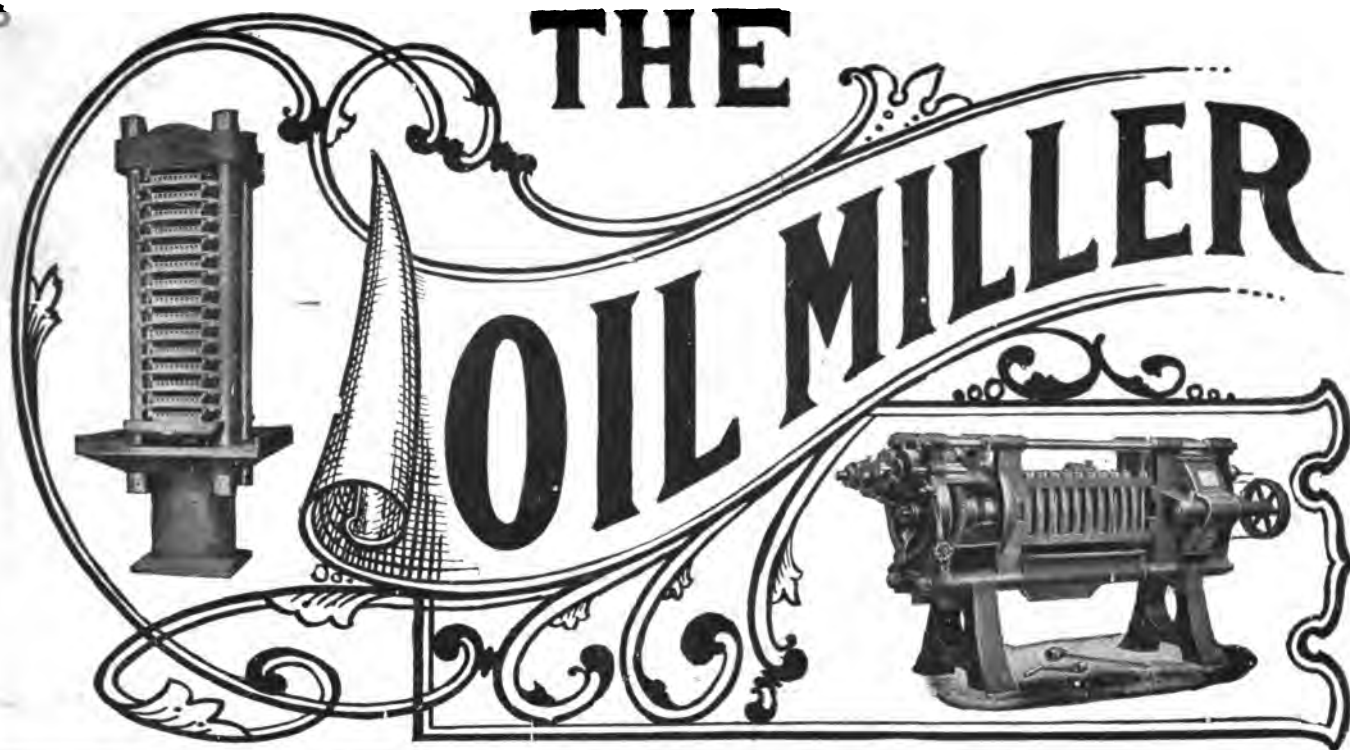
THE BAUER BROS. CO.

509 Bauer Building
SPRINGFIELD, OHIO.

SCIENTIFIC

ATLANTA, GA.
PUBLISHERS' PRESS, PRINTERS

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Vol. IX. No. 6.
Monthly.

Atlanta, Ga., February, 1919.

Entered as Second-Class Matter at Atlanta, Ga., under the Act of March 3d, 1879.

\$1.00
Per Year

LAW & COMPANY, Inc.

(Formerly the Picard-Law Co.)

The Oil Mill that attempts to operate under present conditions without chemical control is working under a handicap that it is impossible to overcome.

Chemical control by yearly contract and referee and settlement work our specialty.

A cordial invitation is extended to all our oil mill friends to visit our new laboratories, top floor of the Walton Building, when in Atlanta.

LAW & COMPANY, Inc.

Atlanta, Ga.

Wilmington, N. C.



Transmission Belting

**"THE RIGHT BELTING IN
ITS RIGHT PLACE WILL
GIVE THE RIGHT SERVICE"**

There is no one belt that will meet every requirement or condition in the Oil Mill. If good service is to be expected from a belt, it is absolutely necessary that the right belt be used in its proper place.

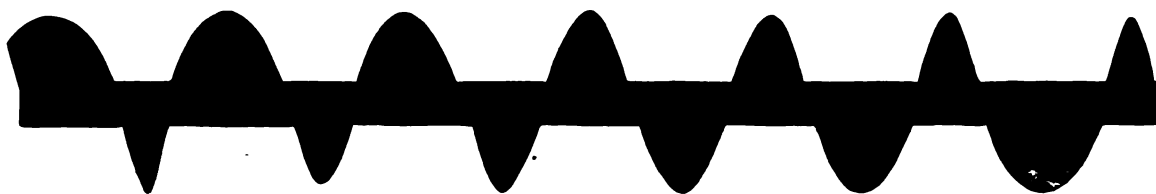
Our engineering department will gladly advise with you as to the belting to be used on the different drives in your mill, namely—

**Linters — Linter Float — Hullers —
Beaters — Shakers — Cake Break-
ers — Press Rolls — Cake Mills —
Seed House — Main Drives.**

We have been supplying many of the Oil Mills throughout the country with belting for many years, and it has always given the utmost in satisfaction.

United States Rubber Company

Mechanical Goods Division



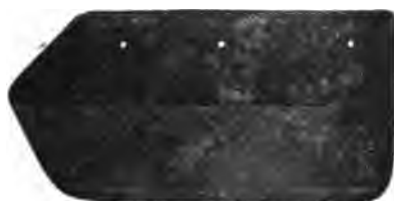
End Flights of Each Section of Jeffrey Sectional Flight Spiral, where the most wear occurs, are Extra Heavy.



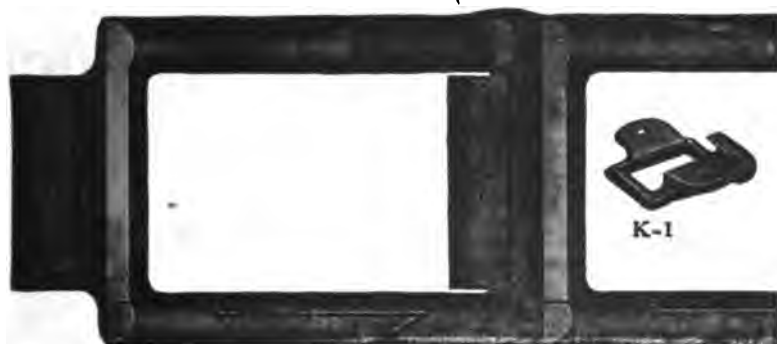
Jeffrey U-Bolt Hangers and End Bearings are furnished with Jeffrey-Randall Graphite Sheet Lubricator which increases the life of the bearings about 300%—Saves 75 to 90% in oil or grease.



Countershaft End Bearings



Standard Steel Elevator Bucket for handling Seeds, Grain, etc.



Jeffrey Standard Detachable Chain and Attachments

JEFFREY Equipment For Cottonseed Oil Mills

A Complete Line of
Chains and Attachments
Sprockets and Traction Wheels
Spur, Bevel and Mitre Gears
Malleable Iron and Steel Elevator Buckets
Elevator Boots and Casings
Takeups — Collars — Couplings
Bearings — Pulleys — Hangers
Spiral and Belt Conveyors and Fittings, etc.

Write for Latest Catalog on Jeffrey Equipment.

The Jeffrey Mfg. Co.

968 N. Fourth St.

Columbus, Ohio

JEFFREY SERVICE STATIONS CARRYING STOCK:

Atlanta, Ga.—Cotton States Belting & Supply Co.

Baltimore, Md.—Carey Machinery & Supply Co.

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Memphis, Tenn.—Riechman-Crosby Co.

New Bern & Wilmington, N. C.—Hyman Supply Co.

New Orleans, La.—The Fairbanks Co.

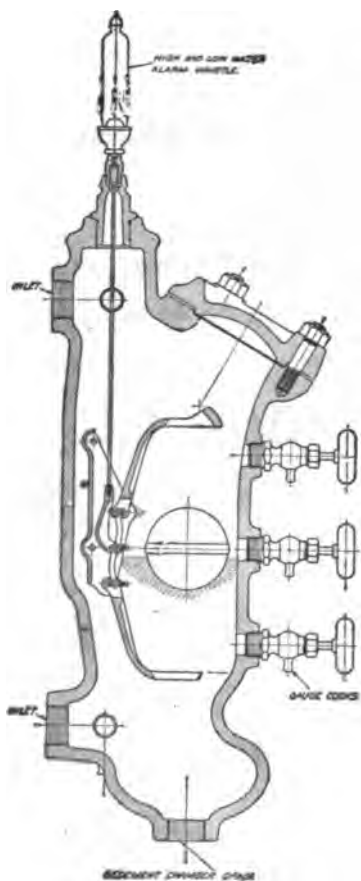


Jeffrey Elevator Boots made in various types to suit conditions.

"SAFETY FIRST"

Are you insured against fatal boiler explosions or against loss of time on account of repair to your boiler?

The ANDERSON Safety Water Column



attached to your boiler gives you the necessary assurance as it will give persistent warning to the fireman when the water in the boiler is too high or too low. Our column is fitted with a high and low water alarm feature that always works. All working parts are hung on accurately machined bronze pivots in a removable hanger frame and will not rust or stick. The float is the best on the market for high pressure service as it is made of the best material obtainable and is tested for extreme pressures before leaving the factory. The columns are made in different sizes for the different types and sizes of boilers.

It Is An Anderson Product

Ask us for Specific Information and Prices.

The V. D. Anderson Company,

W. 96 Street

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Cleveland, Ohio

Chandler Cottonseed Huller

A Pioneer of Modern Hulling

**Thoroughly
Up-to-date**

**Built for
Service**



**Many Special
Features**

**Ask for
Bulletins**

Celebrated for Efficiency, Quality and Safety. Backed by Years of Successful Operation. Both Cylinder and Breast Protected by Armor of Steel. Single Lever Adjustment. Dust-Proof Ball Bearings.

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Peanut Crushers Must Filter



The Sperry Filter Press

The greatest stock of peanuts in the history of the oil milling industry will be milled this season.

It must be handled more efficiently than ever before to meet exacting trade requirements.

Peanut crushers must filter their oil to get the best prices from the buyers.

The Sperry Filter Press is designed to meet every demand.

Write TODAY for complete catalog.

Builders of Filter Presses for Thirty Years.

D. R. SPERRY & CO.

Batavia, Illinois

Near Chicago

THE HILL CLUTCH CO.

When Ordering Friction Clutches Specify

SMITH TYPE HILL FRICTION CLUTCHES

THIS WILL INSURE YOUR OBTAINING THE LATEST DESIGN



The SMITH TYPE-HILL CLUTCH is a development of the older Standard Type Hill Clutch. The principle of action remains the same, but there are many improvements in design and construction—the result of our experience of thirty-four years devoted to the manufacture of friction clutches.

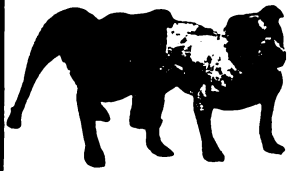
Briefly, these improvements are: Heavier construction; larger shoe area; positive action—no springs; substitution of gib plate construction for stud formerly employed for holding jaws to spider. Toggle mechanism made of steel and forgings.

Every Oil Mill Manager and Superintendent should have a copy of our Friction Clutch Catalog No. 8—**mailed upon request.**

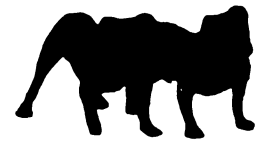
THE HILL CLUTCH CO.

Cleveland, Ohio.

Complete Power Transmission Equipments.



UTILITY



UTILITY FERTILIZER MIXING SYSTEM

**First Cost
Small**

**Power
Little**

**Simple
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**Repairs
Slight**

**Best
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**Feeding Con-
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Plow**

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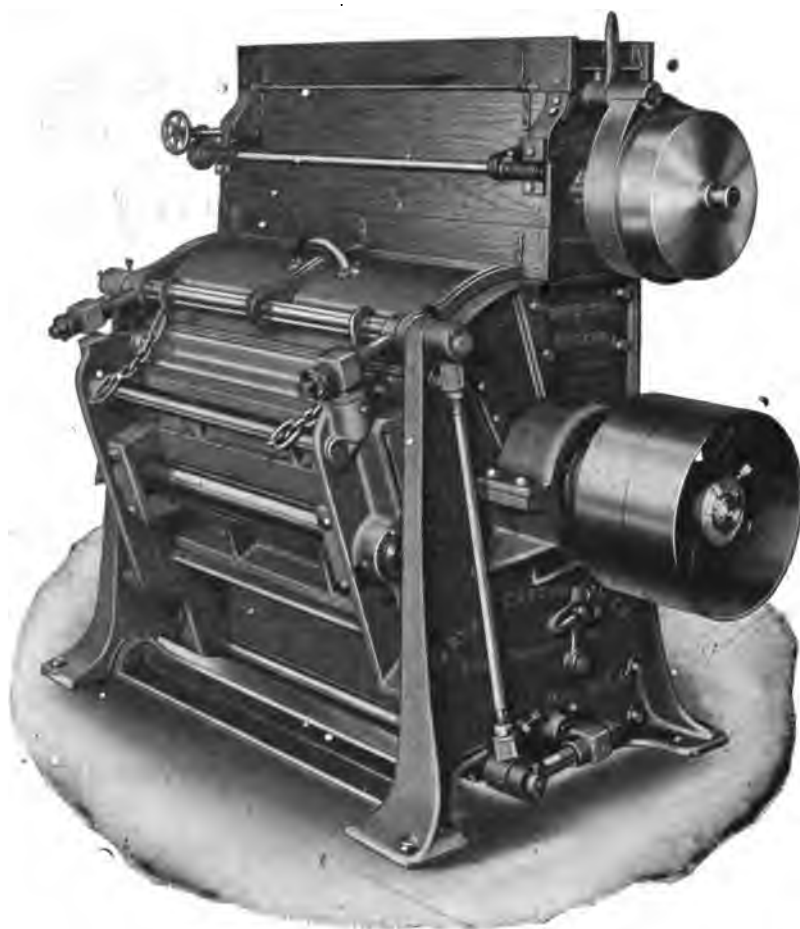
**Sacking
Scales**

**The most satisfactory inexpensive outfit for Fertilizer Mixing.
Compact and Complete in every respect.**

Write for Prices and Plan E-20.

ATLANTA UTILITY WORKS

East Point, Ga.---Suburb of Atlanta



CARVER COTTON GIN CO.

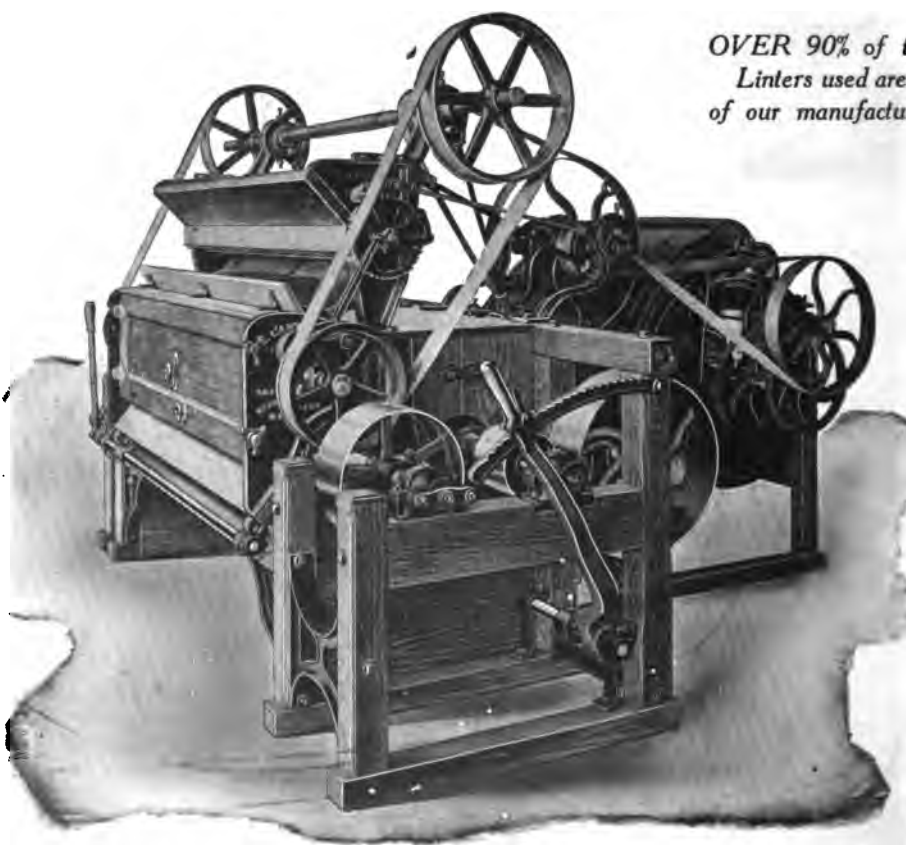
FACTORY:
East Bridgewater,
Mass., U. S. A.

SALES OFFICES:
ATLANTA, GA.
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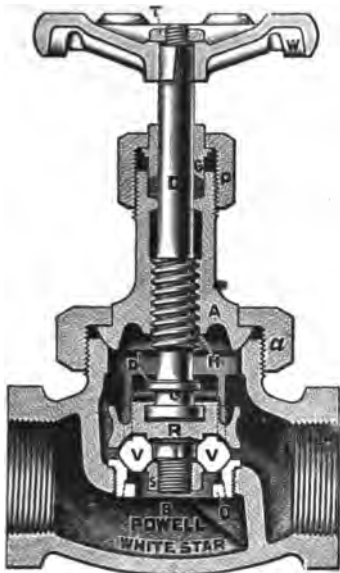
DALLAS, TEXAS
711 Main Street

For Quality,
Mechanical
Excellence,
Superior Results,
THE
SEED CLEANING,
LINTING,
HULLING
and
SEPARATING
Machinery built by
us can not be
equalled.



*OVER 90% of the
Linters used are
of our manufacture.*

ESTABLISHED
IN 1846



"WHITE STAR"
VALVE BOOKLET
ON REQUEST

POWELL VALVES

(Especially The "White Star" Valve)

MR. ENGINEER:

More than 3 wise men and numerous others have used the Powell "White Star" Valves. Our reputation for quality is always maintained by our superior manufacturing facilities which enable us to fill every requirement.

Ask your dealer for
"Powell Valves"
or write us.

THE W. M. POWELL CO.
DEPENDABLE ENGINEERING SPECIALTIES.
CINCINNATI, O.

H-P-M

FOR

Your Pressing Needs



H-P-M

FOR

Your Pressing Needs

Hydraulic Presses of Quality

With the increased value of oils and the increased cost of production, the efficiency of your pressing equipment becomes increasingly important.

H-P-M Hydraulic Presses and Pumps are well designed and well built.

H-P-M Hydraulic Steam Pumps, Valves and Fittings are highly efficient and exceedingly durable.

H-P-M Hydraulic equipment gives reliable service season after season.

Each unit is a quality product, thoroughly tested before leaving our factory and is absolutely right in every detail.

Send us your inquiries.

The Hydraulic Press Mfg. Co.

Engineer-Builders of Hydraulic Machinery Exclusively

82 Lincoln Avenue

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San Francisco

Bailey-Burruss Manufacturing Co.

ATLANTA, GA.

FORMERLY

Atlanta Manufacturing and Supply Co.



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— OF —

ELEVATING, CONVEYING
AND
POWER TRANSMISSION
MACHINERY.

ALSO

Steel Constructed Shakers,
Beaters, Reels and
Hull Packers.



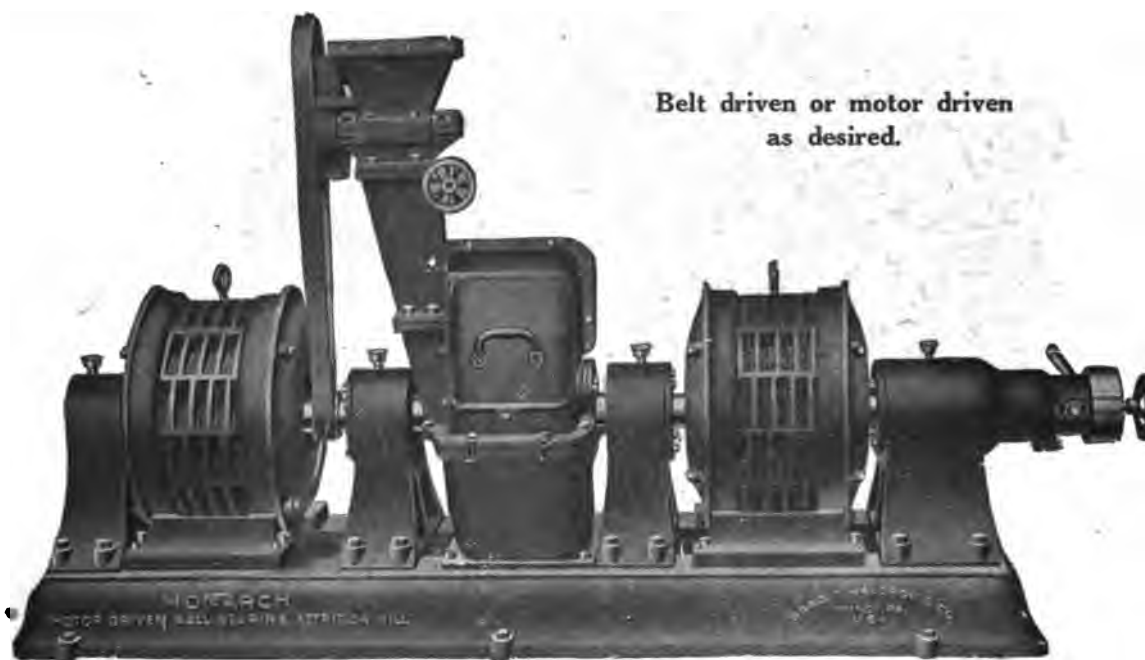
ENGINEERS AND DESIGNERS

Of Improved and Modern Oil Mill Equipments.

Economy Time is Peace Time as well as War Time

The war has taught us all habits of thrift — that waste is sinful. In the operating of your oil mill, have you eliminated the waste?

The Monarch Ball Bearing Attrition Cake Mill Helps you to Economize



This Machine is the Highest Attainment in Mill Building

It saves Coal (conserves 25 to 50% Power).
It saves Labor (requires less attention to operate).
It saves Grease (lubrication economical and cleanly).
It saves Money (is made strong and durable).

Write for Complete Catalog.

Sprout, Waldron & Company

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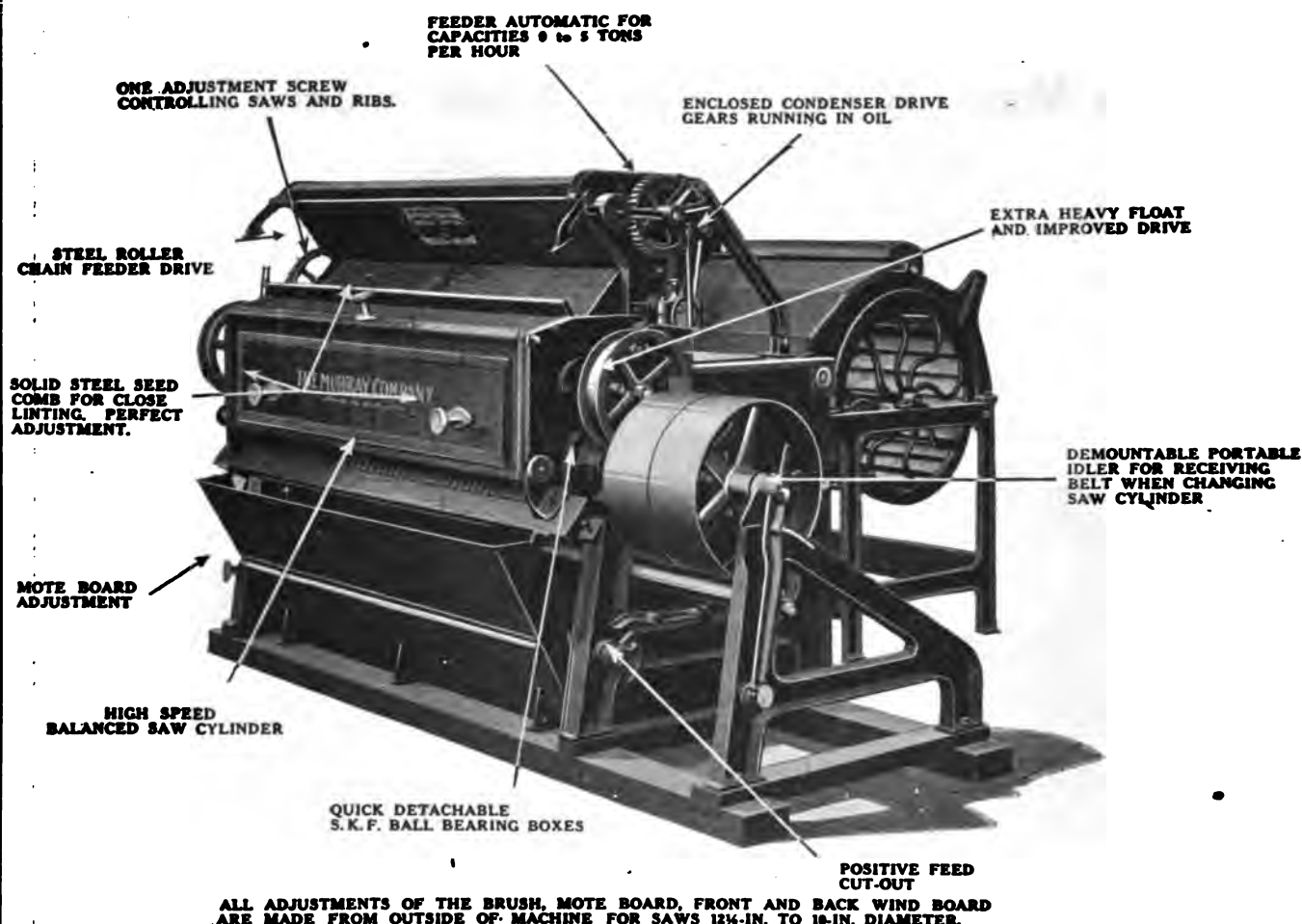
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THE OIL MILLER

LIGHTING AND POWER NUMBER

Vol. 9.

Atlanta, Ga., February 15, 1919.

No. 6

THE OIL MILLER

OIL MILLER PUBLISHING CO.

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KATHERINE G. BIRMINGHAM, Editor.

Atlanta, Ga.

Subscription Price: \$1.00 per Year.
Three Years for \$2.00

Address all communications to The Oil Miller,
Empire Bldg., Atlanta, Ga.

Advertising Rates Furnished Upon Application.

Entered as second-class matter March 4th, 1913, at post
office at Atlanta, Ga., under act of March 3rd, 1879.

Official Organ Alabama Cotton Seed Crushers Assn.
Official Organ Arkansas Cotton Seed Crushers Association.
Official Organ Inter-State Oil Mill Superintendents Assn.
Official Organ North Carolina Cotton Seed Crushers Assn.
Official Organ Cotton Seed Crushers Assn. of Georgia.
Official Organ Mississippi Cottonseed Crushers Assn.
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CONVENTION DATES

JUNE 4th, 5th, and 6th,

The first week in June will be gala week in Atlanta for then The Interstate Oil Mill Superintendents' Association will be holding their convention here and the meeting of Oil Mill Superintendents Exhibitors Association will take place at the same time.

There isn't a single oil mill superintendent who can afford not to be present. There is something to be had out of this convention for every one of you. That is why it is planned to be of assistance to each and all of you. Bring your problems here to be solved. Many minds quickly solve difficulties that may be too great for one. Your strong point may be the other man's weak one and vice versa but by

getting together and pooling your experiences as it were, the next year's difficulties are reduced to a minimum.

Come and get the other man's viewpoint. There may be something inspiring in it for you. It is not a dry as dust convention that is to be held but teeming with matters of vital interest. This is the first get-together since Peace has come and the situation is a different one than has ever before confronted the oil mill trade. Every manager should be here to discuss it and every superintendent should come along with his manager.

The exhibition of oil mill machinery is in itself worth the trip to Atlanta. You managers all want to know what is going on in the manufacturing world in the way of new and improved machinery and you want your superintendent to know this too. There are likely to be machines exhibited which would save you considerable money if installed in your factory. Come and see all of this. If you were to send your superintendent to make a visit to the most up-to-date plants in the oil mill industry, it would consume a great deal more time and cost a great deal more money. Here you can see it all in a few days, acquire a deal of useful information and go back to your mill with a stimulated interest to produce just as much oil, just as good oil if not a little better oil than any other mill there is, at the minimum of cost. This convention will help you to make your mill one of the mills par excellence in the industry.

Don't forget the dates—June 4th, 5th and 6th—plan to make this a pleasure trip, too. Don't come alone—there will be plenty of entertainment for your wife, too. The managers of the convention have planned good entertainment features as well as good business meetings. Everyone come—it is by pulling together that The Interstate Oil Mill Superintendents Association will be a success.

"LET THERE BE LIGHT."

Modern methods of building advocate almost without exception daylight mills and factories, that is, with all the possible window spacing. It tends towards better production; good light and good air are important factors in making happy employees. Unfortunately not all of the working hours can be in daylight but modern lighting systems have made possible almost as pleasant working conditions.

Every oil mill should see to it that its lighting arrangement is so good that the change from the nat-

ural to the artificial light goes unnoticed. This is not difficult of accomplishment. Good lighting systems are within reach of the pocketbook of every mill owner and the expenditure more than justifies the return.

Good lighting means no apparent reduction in the amount of work in these hours when artificial lighting is necessary. It is a decided protection against accident of all kinds; it means contented employees and contented employees mean the maximum of efficiency, all of which roll up the profits of the oil mill.

Have you made a study of the lighting in your mill of late? If not, this is a good time to look after it. Are you using sufficient light in all your departments? Are there dark corners where accidents are liable to occur? How about the yards—are they lighted up? Perhaps your whole system needs changing—If so, change it, make it right. Too much cannot be said in favor of good lighting and remember the benefit to be gained more than offsets any expense and it is all your gain.

IN RETROSPECT.

Common use dims the glory of all wonders and this is probably more true of the use of electricity than of anything else. Sitting down in a well lighted room with our evening paper or transacting our business in a well lighted factory how few of us ever give a thought to the centuries of experiment and study which have turned night into day so generally that while it is still almost in its infancy, we accept it as we do our daily meals.

The claim which electricity can make to a great antiquity is more than that of most of the sciences. It is believed that Thales of Miletus who lived 640 to 546 B. C. knew that amber after being rubbed acquired the property of attracting light bodies and Theophrastus a couple of hundred years later in his treatise "On Gems" mentions that this quality is not peculiar to amber. But no definite scientific knowledge was acquired until the close of the 16th Century when Wm. Gilbert published his great work "De Magnete." In this book he used for the first time the terms "electric force" "electric attraction" and "non-electrics," the former name being given to bodies which act as amber does when rubbed, the latter to bodies such as metals which when held in the hand and rubbed did not attract.

Robert Boyle, Sir Isaac Newton, Von Guericke, Canton, Hawksbee down to Stephen Gray in the

early 18th century all made important discoveries—Gray proving that electric forces could be carried for a considerable distance by means of a packthread and other bodies, thus discovering electric conduction. The Old Continent and the New were both at work in these eighteenth century days on electrical experiments. We all know about Benjamin Franklin and his kite. But perhaps to Henry Cavendish who lived 1731 to 1810 is due a great deal of electrical lore which was not permanently put into practice until the 19th century.

And so on down these years the brains of many men in many centuries were given up for a lifetime that there might be light, though they were never to see the outcome of their work nor dream of its magnitude.

The credit for the basic discovery of the electric light is probably due to Sir Humphrey Davy who in 1810 observed the electric arc and produced the incandescence of a fine platinum wire in connection with his famous experiments with a 2000 cell battery.

The developments of the next fifty years were solely of a scientific nature as the dynamo machine had not been invented.

The first record of an arc lamp being used for regular and actual service is in 1862 when an arc lamp was installed in a lighthouse at Dungeness, England and this lamp was supplied with current from a cumbersome magneto electric machine. This lamp was in use for a great many years.

A new era in the field of electrical development was opened by the production of the dynamo by Gramme in 1870, though at the Centennial Exhibition at Philadelphia in 1876 there were but two exhibitors. Charles F. Brush in 1878 brought out a complete system of arc lighting which included a special form of dynamo and a type of self-regulating arc lamp for series operation. The Thomas-Houston system and a number of others followed very shortly. The Brush system with minor modifications is still in general use to-day.

The Edison incandescent electric was first installed in 1879 at the Edison laboratory at Menlo Park, N. J. and Edison's invention gave to us the first practicable incandescent lamp. From this have grown all the wonderful systems of lighting which are now used.

Centuries of thought and study by thousands of people, many of whom we have never heard of were necessary that the fulfillment of their vision might be accomplished and how marvelously well it has been accomplished. Why not then take advantage of it to the utmost, light our homes, our mills, our towns with electricity, a dream to the past-centuries, a blessing to the present.

LIGHTING THE OIL MILL.By **A. L. Powell,****Prepared for the Society for Electrical Development.**

The aim of the designer of modern efficient machinery for extracting oil from the seed is to obtain the maximum output. The advantages claimed for improvements are that they will increase the output a fraction of a gallon of oil per ton of seed. It is most desirable to install the best apparatus in order that the investment may yield the greatest return.

Looking at the question from another viewpoint, does it pay to take advantage of the most scientific apparatus if operating conditions are such as to preclude its effective use? The human element is most certainly an important link in the manufacturing system and if this cannot function with speed and accuracy, then the output will suffer.

There are certain conditions recognized by labor experts everywhere, as essential if morale is to be maintained, employees contented and healthy, and output at a maximum. Among these may be mentioned proper ventilation, adequate lighting, suitable toilet and washroom facilities and fire protection. The factor which shows the greatest direct return is adequate lighting and it is this phase of mill operation which is the subject of this article.

Many mills are so inadequately illuminated that it is impossible for them to be operated efficiently no matter what machinery is installed. It will be pointed out that lighting does have an extremely important bearing on mill economy.

Daylight Conditions.

Natural light in the open country is practically free, buildings can and should be constructed so that the maximum sunlight is admitted. In the congested city, of course, different conditions sometimes exist, where it is more expensive to provide unobstructed window space than to depend on artificial light.

Provide the mill with plenty of window space. Sunlight is a wonderful sanitary agent. Clean windows regularly and permit it to enter. Many industrial plants neglect windows for years and they become so coated with dirt, smoke, oil and other accumulations that they are almost useless. Tests in an office building have shown that windows which might be described as only moderately dirty have light absorptions of over 50%. Some of the real dirty windows in factory buildings absorb over 90%. Dirty windows mean turning on the artificial light at an earlier hour or burning it continuously.

Necessity for Artificial Light.

In spite of the universality of daylight, it is not a continuous gift. If dependence were to be placed on it alone, as soon as the sun had set, labor must cease and the mill be shut down. It is, indeed, fortunate

that artificial light sources are available which, when properly installed, enable one to work on as efficiently after nightfall as before. Since artificial light costs something, it is necessary to exercise considerable care in the choice of the system, the placement of light sources and similar features. In other words, we must get the most for our money. Proper lighting is a paying investment. It increases production, promotes safety, eliminates spoilage and produces better laboring conditions. Up to date methods of lighting will not only accomplish these results, but in many cases where efficient lamps replace obsolete types, it will actually reduce the cost of lighting.

If the system of illumination is poor or inadequate, production will materially decrease during hours when dependence cannot be had on natural light. The employee has become accustomed to daylight intensities and if, when the artificial system is turned on, the intensity is so low in comparison, his movements must slow up. He must be more cautious in proceeding about his work for he does not have the confidence which comes with clear vision. If he drops a tool or some material and it falls into a dense shadow, some moments must be spent in searching for it. If the artificial light is of a type which is under his control, such as a drop lamp, considerable time may be spent in adjusting it to suit his fancy. It is quite apparent that all these items combine to decrease output.

Advantages of Proper Lighting.

If the mill is poorly lighted, men carrying raw material about must proceed cautiously and slow up their movements. Accident reports indicate that one of the most common causes is stumbling or falling. With poor lighting this hazard is increased. Many other accidents occur from workmen being caught in moving gears which are not clearly visible. Not only does an accident affect the injured worker, but it has a demoralizing effect on the entire force. The Safety First movement has spread rapidly over the entire country and its message has done wonderful good. The employee is taught to care for himself and others and the employer has been compelled, by legislation to make working conditions as safe as possible. The Departments of Labor in many states have been empowered by the legislators to put into effect certain rulings designed to protect the employee. These bodies have recognized that many accidents may be avoided if adequate lighting is provided and have prepared codes of lighting which are enforced. In those states where such rulings are in effect, it is of course essential to comply with them. In other localities, it is to the interest of the management to see that similar conditions prevail.

The old scheme of placing a single lamp, usually without a reflector, immediately over the work usually causes many accidents. Such a system of

illumination may give plenty of light on a small area, but does not provide sufficient for the aisles and passageways or on the moving parts of the machinery. Under such conditions as these, articles are allowed to accumulate in the aisles, which material may cause one to stumble. Furthermore, with such a system of lighting where the eyes are not shielded from the lamp, the workman is not able to see well when he turns away and may come in contact with the fast moving gears or belts. A system of general illumination for the entire room will aid greatly in overcoming these faults.

If plenty of light is provided, the machines can be watched carefully and errors in manufacture are

efficient Mazda lamps are substituted for inefficient carbon or Gem lamps, the cost will be materially reduced. For example, a rough calculation shows that where 25 watt Mazda lamps are substituted for 60 watt carbon lamps, they give more light and result in a saving of over \$1.50 per lamp per 1000 hours, where the cost of power is 5 cents per kilowatt hour. At other rates for power, proportional savings are obtained. This decrease in cost certainly is an advantage to the manufacturer and even greater savings may be made where general illumination is used, for in the case of a carbon lamp installation, these are usually grouped in clusters or from four to six lamps in a flat reflector. A much more efficient



Figure 1—Night view of the rear of a row of linters in a Texas Cotton Oil Mill. These are lighted by 100 watt MAZDA C lamps in deep bowl enameled steel reflectors placed between each pair of machines about 10 feet above the floor. Note how clearly every detail is revealed. Certainly work can be carried on effectively under such excellent lighting.

less likely to creep in. Spoilage, a double loss of time and material, is reduced. A well lighted mill is cheerful and pleasant to work in. It attracts labor and tends to keep employees contented and satisfied.

Cost of Lighting.

The results of proper lighting are so far reaching that even if the cost were in excess of that of an inadequate system, an industrial plant could not afford to do without it. Fortunately, however, this condition of a large expenditure does not hold. Where

unit consists of one large Mazda C lamp and proper reflector. One 100 watt Mazda C lamp will give the same amount of light as six carbon lamps, and with a well designed reflector the distribution of light will be much better than before. Considering this condition on a 1000-hour basis with power costing 5 cents per kilowatt hour, a saving of over \$13.00, or 68%, is realized.

In most conditions it is not advisable to merely substitute lamps on the basis of equal light output. The intensity of illumination, as found in the major-

ity of instances, is too low for most satisfactory operation. It is better to even double or triple the quantity of light. In many cases this may save somewhat on the cost of lighting, but even if no saving is experienced the advantages gained through proper lighting far more than compensate for making the change.

Lamps

The Mazda lamps represent the highest development in incandescent lighting units and are made in two general types, known as Mazda B and Mazda C. The filament employed in all these

a set of anchors. The bulb is evacuated and then an inert gas or mixture of inert gases is introduced in the bulb at atmospheric pressure. This form of construction has caused such lamps to be referred to as gas-filled. The action of the gas in the bulb is to retard the evaporation of the filament and permit its operating at a higher temperature. The higher the temperature of the lamp filament, the greater the amount of light produced for a given power consumption. The gas has a secondary action, that of cooling the filament which tends to offset its good qualities. This action makes it uneconomical



Figure 2—These linters are illuminated in a similar manner, save that the dome type reflector is employed. This is, indeed, a contrast to many conditions where a few bare, inefficient lamps are hung on drop cords, haphazardly spaced about the place.

lamps is drawn tungsten wire. The filament in the Mazda B lamps is wound on flexible anchors in a loop form and the clear glass bulb is carefully evacuated. Hence, these lamps are often referred to as vacuum lamps. This construction is used for all the smaller sizes, which are suitable for local lighting or for general illumination where only a very low intensity is required.

In the Mazda C lamp the filament is coiled to resemble a very fine spring and this is supported by

to use such a construction in lamps of low wattage. Mazda C lamps are especially well adapted for general illumination, being obtainable in from medium to extremely high candlepower outputs.

It can be seen from the above that there is an extremely wide range of types and sizes of Mazda lamps, enabling a designing engineer to pick out standard product exactly suited to the conditions in hand. With no other form of illuminant is there this wide adaptability, which is greatly increased

by the combination of these lamps with a great variety of standard reflectors.

Mazda lamps are made for both 110-125 and 220-250 volt circuits. It is advisable in planning the wiring for lighting to provide 110-volt circuits. Lamps of the 110 volt type are somewhat more efficient than those for the higher voltages and of much more uniform quality, as well as lower cost. Mazda lamps are not seriously affected by ordinary voltage fluctuations, although it is very desirable to separate lighting circuits from power circuits,

In order to insure obtaining promptly lamps of the type desired, it is well to specify the following points when ordering lamps: quantity, type, wattage, voltage, bulb, base, and whether clear or frosted.

In many instances the voltage is not mentioned and in such cases when the labeled lamp voltage differs from that of the line, short life results due to too low voltage lamps, or low intensity due to too high voltage lamps.

The frosting of the lamps is also neglected at times. In using the Mazda C type of lamp, par-



Figure 3—A press room as it appears by night with proper artificial illumination. 100 watt MAZDA C lamps in dome type steel reflectors are spaced on centers ranging from 12 to 15 feet. Efficient work is encouraged by such an arrangement, and safety insured. Proper wiring of the mill is an important point in protection against fire and in some localities saves considerably on the insurance rates.

as the variation in intensity is annoying to persons working in the room. Mazda lamps operate equally well on alternating and direct currents.

An incandescent lighting system is most desirable. There are no moving parts to stick, no repairs required, no unsteadiness to the light save as pointed out above, and renewal of lamps is simplicity itself. The economy resulting from using Mazda lamps has been emphasized in detail. Their performance is uniform and the rated life values always attained on the average.

tiicularly where the filament is in the line of vision of the operator, it is recommended that the lamps be bowl frosted.

Reflectors

It has been said that light may be produced by lamps without reflectors, but not by reflectors without lamps. This statement is very true, but lamps without reflectors not only waste power but also are a cause of ineffective lighting due to glare. Thus the purpose of reflectors are two-fold; to distribute the light most efficiently

on the working plane, and to protect the eyes of the workmen.

Glare in the workmen's eyes due to unshielded lamps is a condition which should be rigidly avoided, for it produces a serious effect upon the eye which

lihood of their being broken, and secondly, dirt and dust collect on any lighting equipment and with the translucent reflectors it is much more noticeable as well as serious. An efficient steel reflector is generally the solution.



Figure 4—The yard of a large oil mill illuminated by flood-lighting projectors. Many articles are lying about the ground over which one might readily stumble if adequate lighting were not provided. Speed of handling material is greatly increased through this means.

not only reduces its acuity but also produces a tiring effect upon the entire body. The best means of avoiding such an effect is to use proper reflector equipment.

The question of decorative appearance of lighting equipment is not very important in the class of build-

The dome type reflector gives a greater spread of light than the deep bowl, permitting wide spacing without intervening areas in darkness. This style also gives a higher output.

The dirty surroundings have been mentioned before and the surface of the reflector should be such

Figure 5 — Freight cars can be loaded and unloaded with rapidity if light is provided everywhere. The arrangement of flood-lighting projectors in this instance is clearly shown by the unit located on the pole in the immediate foreground.



ing under consideration. The object is to get the maximum light on the machinery with the least expenditure of energy. An efficient reflector is essential. In general, glass reflectors are not well suited for this type of interior, first on account of the like-

that it can easily be cleaned. Porcelain enamel is virtually a layer of glass applied to the steel base and has all the advantages of glass. It is easy to clean, soap and water or even a wet rag will give the porcelain a bright, clean surface, returning it

to its original efficiency, even though it has become greasy or very dirty. It resists acid fumes, whereas other finishes are likely to deteriorate rapidly if exposed to certain vapors. Being heat resistant, it does not depreciate nor turn yellow with age. It has a high reflecting power.

All enameled surfaces are not equally efficient. Good enameling appears a pure white or possibly a trifle yellow. A thin coating of enamel appears slightly blue, due sometimes to the base metal showing through. Reflectors with a surface having a slight enamel should be evenly distributed and there should be no cracks, however small. Moisture will creep through minute cracks and finally attack the base metal. The enamel should not be extremely brittle, as this chips too readily on being struck. In reflectors to be used out of doors, particular attention should be paid to the enameling around the joints, for these are most susceptible to rusting.

The leading manufacturers of industrial lighting reflectors have now standardized on certain shapes, sizes and quality of reflectors. A constant check is kept on this latter item and a purchaser obtaining a reflector with the label of approval attached need have no hesitancy as to the items outlined above. The standardization referred to marks a big step forward in "Quality Lighting."

General Lighting Suggestions

In most instances lamps should be hung as high as possible. Properly applied, this does not reduce the average intensity of illumination, in spite of the popular misconception to the contrary. Lamps well up toward the ceiling are not so likely to be broken. In this position they are handled less and reflectors do not become so dirty.

It is most desirable to have walls and ceiling as light in color as possible. Paint is a wonderful adjunct to the lighting system. Many a poorly lighted room has been made satisfactory by refinishing the interior. This point cannot be emphasized too strongly.

After the system is properly installed, it should not be neglected. It is most necessary to have a careful system of regular maintenance. In so many installations lighting equipment is allowed to fall to pieces. Lamps become broken and reflectors rusted. The output of light is decreased considerably, even with a very small layer of dust or dirt, and where installations are neglected for years, certainly the user is receiving but a very small percentage of the light he is paying for.

As a general rule, larger lamps are more efficient and cost less per unit of illumination than small lamps. The fewer the number of outlets, the less the cost of wiring and maintenance. On the other hand, in designing an installation, a consideration of this feature alone may make the lighting prac-

tically worthless. For example, an area of 2000 square feet is to be lighted. If one-half watt per square foot is provided, 1000 watts are needed. For ordinary ceiling heights, one 1000 watt lamp would certainly not be a type to employ.

The size of the lamp is controlled primarily by the ceiling height. In other words, lamps 20 feet above the floor on 20 foot centers give the same results as lamps 10 feet above the floor on 10 foot centers. All other items being equal, mind this statement, a 400 watt lamp 20 feet high would be as effective as four 100 watt lamps 10 feet high. Other items considered are:

(a) Obstructions of various sorts. If material is piled high or if there is much piping, cross beams, etc., it is apparent that dense shadows would be cast by large lamps widely spaced, which could be avoided by using small lamps spaced more closely together.

(b) Character of ceiling, walls and general surroundings. If these are light in color, reflecting well, then considerable diffuse light is introduced in the illumination. This eliminates shadows and permits wider spacings.

(c) Arrangement of machinery. It is necessary to space outlets with regard to the location of machines so that the maximum light is provided where most required, allowing for the spread of illumination to take care of adjoining areas.

Detailed Recommendations

Having covered, in brief, the effect of good lighting and the necessity for proper artificial illumination, modern types of lamps and reflectors and given some general suggestions on the design of a lighting system, it is well to analyze the requirements as they exist in the oil mill. This can be done most satisfactorily by taking up the various processes in their logical order.

Cleaning

The seed is first cleaned of sand and foreign material in the various machines known as cleaners, sand and boll reels and shakers. The material is handled in bulk, machines are relatively large and no fine adjustments are necessary. The demands for lighting are, therefore, not exacting. It is only necessary to provide sufficient illumination to see one's way about clearly so that there is no danger of accident and to observe if the fans and conveyors are working properly. Care should be taken to place the outlets in such positions that overhanging parts of machines will not cast shadows and that the maximum light is provided where most needed. General illumination with one-quarter watt per square foot of floor area provided will meet the condition. A typical arrangement might consist of 60 watt Mazda lamps with dome enameled steel reflectors on 15 foot centers. It is well to have a conveniently located wall receptacle in case a port-

able lamp is required for examining the interior of machines.

Linting

After cleaning, the seed must be reginned for a part of the short lint. The lighting requirements of the linters are somewhat more exacting. The saw cylinders must be examined and replaced when dull. Rolls of lint must be removed, bearings examined and all moving parts should be clearly visible. The linters are usually arranged in rows and this condition must be taken into account in the placement of lighting outlets. It is well to install lamps at both front and rear of machines, as the conveyors and chutes would cast bad shadows if the installation were to consist of only one row of outlets. 100 watt Mazda C lamps in either bowl or dome reflectors on twelve to fifteen foot centers, nine feet or more above the floor, will provide excellent illumination. It is often well to stagger outlets in adjoining rows. Figures 1 and 2 show night views of well lighted linters in two typical up to date mills.

Hulling

Hulling.—The hullers, in which the seeds are cut to pieces, operate at very high speed, and safety, if nothing else, demands that they be well illuminated. It is also necessary to examine the cylinders and concave knives, as well as adjust and balance the cylinder. Lamps should be so placed about the machines that this can be done with facility.

Separating and Pressing

As the meats are being separated from the hulls in the reel or separator screen, it is most desirable to examine the product occasionally to prevent hulls going with the meats. Good illumination here tends, therefore, to produce a better quality of meal. The other demands for lighting are not acute, and a moderate intensity of general illumination suffices for these machines, as well as for the rolls where the meats are crushed. One-quarter to one-half watt per square foot of floor area with efficient equipment should be installed. The same general statement applies to the areas in which the cookers are located, care must be taken to assure sufficient light to see to manipulate steam valves, read gauges and observe the general condition of conveyors for loading the cookers. A well lighted press room, as it appears by night, is shown in Figure 3. Here 100 watt Mazda C lamps in dome type industrial reflectors are spaced on 12 foot centers about 10 feet above the floor. With this arrangement, one can safely put the meats in the former, operate the ram, load the press, operate valves, read pressure gauges, adjust the press and when necessary insert new packing between the ram and cylinder.

Cake Handling

After the oil has been extracted from the

seed, the cake must, of course, be removed, cooled, cracked and ground. As the cake is often loaded by hand in rather powerful machinery, it is well to see that these are provided with all the light necessary to prevent accident.

Saw Filing

Usually, the part of the mill demanding the highest quality of lighting is in the saw filing room. To do this work a high intensity of illumination is most essential and shadows must largely be eliminated. Some of the special lighting appliances now on the market, which give particularly good diffusion, are suitable. From one to two watts per square foot of floor area, general illumination, should be installed. On account of the relatively high paid skilled labor required here, every precaution must be taken to see that operating conditions are at the best.

Yards

The exterior of the plant cannot be neglected. Good yard lighting facilitates rapid handling of material, promotes safety, and affords protection from marauders. The elevators and conveyors should be lighted for night operation in busy periods. Cars can be loaded better with good lighting and shipments, therefore, speeded up. Standard street lighting units and floodlighting projectors are both applicable for this part of the plant. Two night views in Figures 4 and 5 show the application of floodlight projectors employing concentrated filament incandescent lamps.

It is hoped that the few suggestions which have been outlined may prove of some assistance in improving the lighting conditions in oil mills. A prominent engineer in the oil mill industry wrote "I believe there is quite a field for improved lighting devices in the cotton seed oil mills, as they are all operated 24 hours per day, but in most cases they are lighted only by bare lamps without shades, reflectors or any other means of properly diffusing light." Certainly these conditions are not beneficial to an industry and should be remedied.

EFFECT OF REDUCTION OF LINTER CUT ON POWER CONSUMPTION.

J. E. Mellett

Georgia Railway & Power Company.

Not unlike other industries, the oil mills have had their trials and troubles during the war. They have passed through a period of price fixing that was equal to and probably more severe in some instances than in many types of business that finally succumbed to government regulations; and while oil products will no doubt be subject to further control, it is expected that individual effort will play a big part in the many problems to be solved in the future. Entering into and following the period of

(Continued on page 24)

DRY SEED IS SAFE SEED

You can take any green seed as soon as it is ginned, dry it in a Hess Drier to any required moisture content, cool it in the same operation, and put it in storage. It will keep safely without heating or germination until you are ready to mill it, and you will then get **more oil**, a **better quality** of oil, and there will be no loss from deterioration. Hundreds of thousands of dollars are wasted and lost every year, because of green or damp seed.

Hess Driers Will Save Every Pound, at a Cost Very Much Less Than Any So-Called Preserving Process

We make driers ranging in capacity from 10 tons per day upward, fully guaranteed as to efficiency. Owners of Hess driers have an advantage, not possessed by any other mill, in their ability to buy damp seed at their own price, and to save it without loss.

Tell us your daily requirements, and let us advise you what an installation will cost.

HESS WARMING & VENTILATING CO.
904 Tacoma Building **Chicago, Illinois**

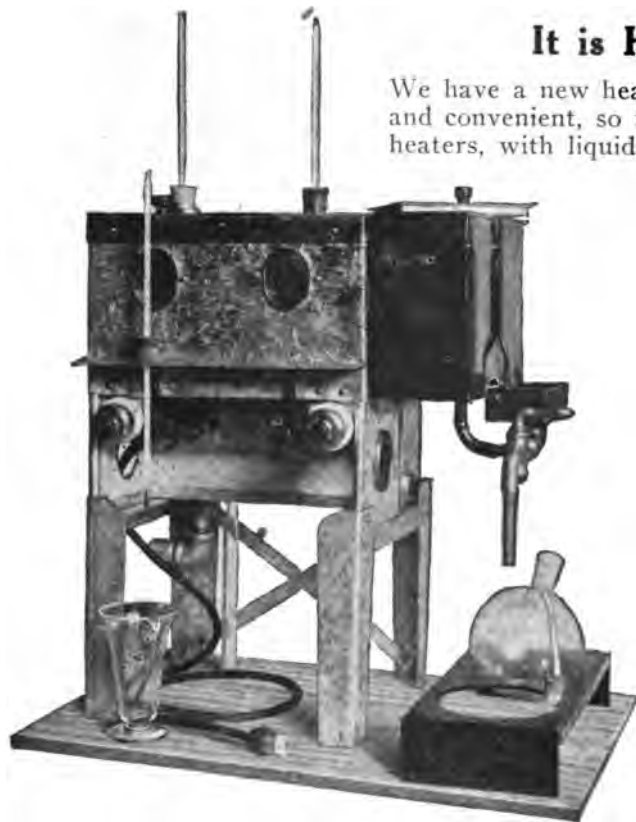
The Official BROWN-DUVEL Moisture Tester

With Glass Flasks or Copper---for Cotton Seed or Grain.

This is the standard tester prescribed in Bulletin 72, Department of Agriculture, and in the Federal Grain Rules of Inspection. In every detail it conforms to the specifications, and is of the type used in all Government grain inspection offices.

It is HEATED ELECTRICALLY

We have a new heating element, our own design, which is so simple and convenient, so free from fire hazard that it will supersede all other heaters, with liquid fuel, for testing purposes.



Its Points of Merit are:

1. **SIMPLICITY.** When a coil burns out, as all coils will, pull off the connector body; lift out the heating plate, which is then free.

Turn two screws and the burnt coil will drop out. A new one is inserted, the screws turned up, and the job is done. The element is not even taken apart for the purpose, and the expense involved is just **TEN CENTS**. No delay, no inconvenience.

2. **EASY REGULATION.** The heat is regulated just like a lamp; the turning of a thumb-nut raises or lowers the temperature just as you want it.

3. **LOW COST.** A new heater costs \$1.00; a new coil 10 cents.

4. **ADAPTED TO ANY VOLTAGE** and quickly changed from one voltage to another, such as lighting (110V) or power (220V) current, by the change of a screw.

5. **SAFER AND MORE CONVENIENT** than alcohol or gasoline, and cheaper.

The tester is made throughout of smooth steel, galvanized to prevent rust. The glassware is of the best quality obtainable and accurately calibrated. Heat and oil resisting stoppers are supplied. The thermometers are guaranteed correct.

Each tester is equipped with a strainer oil-tank, with **SELF-MEASURING FAUCET**, delivering 150 CC of oil at each discharge, which has no valves nor adjustments to get out of order and leak.

No electric tester was ever so good nor sold so low. Our prices, which include all accessories and one gallon of testing oil, are as follows, f. o. b. Chicago:

One flask	\$25.00	A liberal discount for quantity orders or for resale.
Two flasks	40.00	
Four flasks	65.00	
Six flasks	90.00	

We supply gas or alcohol burners if electric current is not available.

We will equip your old tester with these new electric heaters for \$3.00 per burner, including wiring, you to pay transportation charges both ways. In sending testers to be changed over, do not send any glassware, accessories, nor water tank; just the heater body.

We carry a **COMPLETE LINE OF ACCESSORIES** for testers at lowest possible prices.

We still supply the Hess Improved Tester, with copper flasks, for gasoline, gas, alcohol or electricity.

Ask for Full Information.

HESS WARMING & VENTILATING CO.

904 Tacoma Building

Chicago, Illinois

re-adjustment the oil mills will have to be more watchful of the many items that go into the cost of crushing a ton of seed. Competition will be very keen and the mills that guard closely the costs of operation will be the ones that can weather the heavy pressure of future competition. The passing of the price fixing and federal paternalism will call for a greater efficiency of plant operation and reduction in the cost of crushing a ton of seed. For those mills that have not adopted electric power there is a good opportunity to effect economies, and for those that are already using this method of drive there may be some changes that can be made which will materially tend to effect further economies.

The problem that is attracting a great deal of attention among the oil mill interests and associated lines to-day, is the future outlook for lint. During the war there was sufficient incentive to obtain a high cut per ton, when delinted hulls were also in great demand. Every operator knows that to take off a heavy cut of lint is a costly process. Now the question arises—will it pay in the future? There has been considerable money invested in additional linted capacity and delinting equipment. The "Moses" that will come forth and produce a practical working plan as to the best method for the mills to pursue will certainly secure for himself a substantial monetary return.

The production of linters in the past ten years has revolutionized the oil mill business and wrought many changes in the physical layout of the mill itself. About 1907-08 the purchaser of linters "so-called" was somewhat independent and very particular as to the class of linters he bought. At that time they were being utilized for mattresses, etc., in ordinary commercial lines, and in order that a grade as high as possible could be secured, commensurate with good mill operation, the average cut did not exceed 40 to 50 lbs. Along in 1910-11 cellulose and celluloid widened the market for linters with an attending slight increase in the cut. It may also be noted that about this time the Huns were heavy buyers of undelinted hulls, which were to be used ostensibly for the manufacture of paper; but subsequent events prove that the delint was utilized in the manufacture of gun cotton and eventually used against us during the war. Although interest in the production of linters was growing from year to year, the beginning of the war in 1914 had the effect of creating a demand greater than the supply and from then on activity in linter production held the center of the stage until the crest was reached in 1918. Covering this period the speeds at which the ordinary linting machines were operated gradually increased, with an accompanying increase in the power required to drive them. If the same crush in tonnage were to be secured, with

a greater production of lint, then more power was necessary to do the work. Now this is where the flexibility of electric power came in. When additional linting machines became necessary to maintain production, the electrically operated mill installed a motor or motors to take care of the increased power requirements, and the investment for this purpose was held down to the minimum. For the steam or mechanically operated mill that had already reached the limit of power production the problem was more serious. In some instances, larger steam prime mover equipment had to be purchased at a time when prices were high; in other cases, the tonnage crushed was reduced in order to permit the additional power to be diverted to the linting machinery. It is interesting to note from the appended table the effect increased linter speeds had on power requirements and the cut in pounds per ton.

Date	Average Linter Speed R. P. M.	Percentage Increase in Speed.	Average lint cut per ton.	Percentage Increase in cut.	Average HP Per Linter.	Percentage in Power. Increase
1908	250		40-50		4 to 5	
1913	350	40	60-70	44.4	6 to 7	44.4
1914	450	28.5	90	38.4	7 to 8	15.4
1915	550	22	115	26.3	8 to 9	12.3
1916	600	9.9	125	8.7	9 to 10	12
1917	650	8.33	150	20	10 to 12	22
1918	700	7.7	175	16.6	12 to 15	12.6
1919	?	?	?	?	?	

Some mills have cut as high as 200 pounds, but from figures available at this time, the above table shows in a general way how speeds, power and cuts have changed. The power required to drive linters is based on the grouping method and includes the proportionate share of miscellaneous machinery pertinent to the linting machinery. The introduction of ball-bearings in 1915-16 helped to reduce the power consumption. The reduction of lint cut from 175 to 75 lbs. will materially reduce the power consumption of linters. The reduction will, of course, depend to a large extent on how the mill is now operated. While the linters require a large quantity of power to operate, the reduction of 57% in lint cut will not necessarily mean a power reduction equivalent to this, but something in the neighborhood of 50%. As the delinting department represents only about 25 to 30 per cent of the total power required to operate the entire mill, the power necessary to drive the entire mill would only be reduced 13 to 17 per cent, if the same tonnage were put through. We will assume that an electrically operated mill consumed 95 KW hours per ton. Now suppose that the same mill reduced the lint cut to 75 lbs. per ton, permitting the mill to get more seed through and probably increase the daily output

in tonnage to 85 tons or an increase of 54.4 per cent. This mill with an output of 85 tons taking off 75 lbs. of lint will consume about 92 kilowatt hours per ton. Now taking both conditions into consideration we arrive at the difference in power consumption.

Lint cut 175 lbs.			Lint cut 75 lbs.		
Tons	KW Hrs.	Total	Tons	KW Hrs.	Total
Seed	per ton	KW Hrs.	Seed	per ton	KW Hrs.
55	95	5225	85	80	7040

Therefore, with a reduction of 57% cut in lint and an increase of 54.5 per cent in seed crushed, we secure an increase of approximately 35 per cent in total power consumption, but a reduction per ton, provided the same number of linter machines were used in both instances. On the other hand, if linting machines had been added to maintain a crush of 85 tons and a cut of 175 lbs., and were subsequently reduced on a cut of 75 pounds, the power consumption would be reduced approximately 15 per cent.

Bringing the question down to a final analysis, then, it would appear that during the period of readjustment there will be little change in the total quantity of power consumed per hour, but that the power consumption in kilowatt horse-power, or kilowatt hours per ton of seed crushed will decrease considerably.

The power required to operate the other departments of the oil mill has been discussed so often and well that it is hardly necessary to go into this phase of the situation.

Lighting.

There is one point, however, that should be brought to the oil mill man's attention, and that is artificial lighting. Taking into consideration the oil mills as a whole, and not focusing attention to any specific case, it must be plainly stated that the methods of illumination are very crude and border on the antique. Some mills have made great strides lately, in the betterment of lighting conditions, but the majority adhere to the old carbon lamps. The height of the oil mill business is during the darkest months of the year, and as a rule the mills are so constructed that very little advantage can be taken of the day light. It is a matter of record and statistics show that a greater number of accidents occur in industrial plants during that period of the year in which the hours of daylight are shortest. There is no doubt that the mills can secure greater efficiency, have fewer accidents, and make quicker repairs if the illumination is ample and correctly applied.

The scope of this article will not permit of space sufficient for lighting recommendations. Anyway, this item is covered comprehensively by Mr. Powell in the current number of the "Oil Miller." The lighting of the mill is a subject that should receive

careful consideration and the many lamp manufacturers are always willing to send out an expert to make proper recommendations.

REQUIREMENTS FOR GOOD ILLUMINATION.

Engineering Department

National Electric Lamp Association.

The requirements which must be met in the design of a satisfactory lighting installation for an industrial plant are four:

First—Sufficient light of proper quality on the work;

Second—A moderate intensity of light over the adjacent area and on the walls;

Third—Absence of glare.

Fourth—A system which is simple, reliable, easy of maintenance and low in operating cost.

Light on the Work.

An obvious requirement for satisfactory illumination is that the quantity of light on the work be sufficient. Better lighting facilities, along with practically all other improvements in industrial plants, are installed for the purpose of ultimately decreasing the unit cost of production to a minimum. From an economic standpoint, however, it is very difficult, if not impossible, to determine the proper intensity of light for a given class of work. This intensity depends upon the cost of producing light, the number and wages of the employees and the value of their output, as well as upon the nature and fineness of the work and the possible reduction in spoilage. Owing to the difficulties encountered in evaluating these quantities, estimates of the intensity of illumination required for any class of work have usually been based on other than purely economic considerations.

Unquestionably, the intensity of light in any part of a factory should never fall so low that accidents may be justly attributed to this cause. Considered only from the standpoint of safety to employees, 0.25 foot-candles (a foot-candle is the intensity of illumination on a surface normal to the light rays at a distance of one foot from a source of one candle-power) may, in most instances, be taken as the lower limit of permissible intensity in an industrial plant.

Required Intensity.

The upper limit of needful intensity of artificial light may be conservatively estimated at from 50 to 100 foot-candles. Illumination of this order is sometimes required for operations involving fine detail, rapidly moving machinery and black surfaces. After the apparent brightness of an object has reached a certain magnitude, a further increase of intensity does not appreciably aid vision. The necessary volume of incident light will, of course, depend upon the coefficient of reflection of the object illum-

inated. Such intense illumination is usually required over but a limited area and, therefore, can best be supplied by the use of small lamps and reflectors placed close to the work.

While from 0.25 to 100 foot-candles may be considered as the extreme range of intensity for artificial lighting in factories, the great majority of installations will fall within much narrower limits, between approximately 1 and 6 foot-candles. Many tables have been published designating the proper intensity of illumination for various classes of work, but this necessary intensity depends so largely upon the nature and distribution of the lighting units and upon local conditions as well as on the work to be performed that such tables should be used only with the greatest caution. Furthermore, as stated above, such estimates are at best based merely on what is now considered good practice in plants where illumination tests have been conducted; there is no definite assurance that either a higher or lower intensity of light would not tend toward a more economical operation of the plant. As a matter of fact, the cost of adequate illumination for an industrial plant is so low in comparison with the value of the output dependent upon it that in many cases intensities considerably higher than those now supplied will be found profitable.

Diffusion.

To insure a satisfactory intensity of light on the work from a general overhead system of lighting, it is, in most cases, essential to provide light from several directions so that all sides of the objects viewed may be properly illuminated and so that if one lamp burns out, or the light from the unit is intercepted either by the operator's body or by parts of machinery, the resulting decrease in intensity will not be serious. In an installation of a few large units, shadows are likely to be pronounced; furthermore, there is a very decided decrease in the illumination when one lamp is extinguished. A smaller unit will affect a smaller area and this area to a lesser degree.

Uniformity.

Again, with the lighting system in which a considerable number of units are used over an area, it is less difficult to produce uniform illumination. Where one class of work is performed in a given area, a uniform intensity of light over this area will obviously result in the most economical use of the total quantity of light supplied. With any of the artificial illuminants now available, it is impracticable even to approach uniformity of illumination where the distance between units is greater than twice their height above the work; one and one-half times this height is a more satisfactory ratio. For a given mounting height, the allowable spacing of units is constant and independent of their candle-power.

Steadiness.

A requirement of even greater importance than sufficient quantity of light or uniform intensity of illumination is that the intensity shall be constant.

The Illuminating Engineering Society says:

"Don't Work in a Flickering Light."

"See that your light is steady. If you leave a dark room and go into bright sunshine the sensation is unpleasant to the eye; if you use a light that flickers, you get this same unpleasant sensation, perhaps as rapidly as twenty times a minute. Furthermore, the eye endeavors to adjust itself to suit the light; if the light flickers, it keeps the iris of the eye 'see-sawing', as it were, and the muscle that governs it gets tired and reacts on the nerves to cause discomfort and pain."

General Illumination.

In addition to supplying the proper light on the work, a well designed system of illumination should provide for some light on adjacent objects and on the shafting and belting, as well as on the walls and ceiling. In many shops, the intensity, except at a few points, is so low that it is scarcely possible to see one's way about. Such lighting is not only inadequate from the standpoint of safety, but also strains the eye; if the work only is brilliantly lighted and the rest of the room is in comparative darkness, the uneven intensity encountered by the eye in shifting from the work has a tiring effect not unlike that of a flickering light source.

From the psychological standpoint, bright walls and ceiling lend an air of cheerfulness and wide-awakeness to a room which is wanting where the work only is illuminated. If, as in a cotton or a paper mill, the materials are of such a color that they will reflect a large proportion of the light incident upon them, the resulting illumination received on the walls and ceiling will be sufficient to obviate any appearance of gloom. Keeping the walls and ceiling well white-washed adds materially to the appearance of a shop as well as to the efficiency of the lighting installation.

Glare.

Glare is sometimes described as "light out of place." It is well known that any surface within the field of vision which is of a higher order of brightness than the particular object under inspection, will tend to decrease the ability of the eye to distinguish this object. To cause glare, the disturbing element need not necessarily be a light unit; it may be merely a brightly illuminated surface not far from the line of vision, or even some polished portion of the work itself from which the image of a light source is reflected toward the eye. This latter phenomenon is ordinarily termed "specular reflection."

Recent investigations indicate that the extent to which vision is for the time impaired by glare de-

depends primarily upon the total quantity of light received by the eye directly from the source, rather than upon intrinsic brilliancy, hence, the distance between the eye and the source is of importance. If the source is of low intrinsic brilliancy, i. e., if its candle-power per unit of area is low, the effect of glare usually disappears very soon after the cause is removed. If, however, the source is one of high intrinsic brilliancy, such as the filament of a Mazda lamp, or the crater of an arc, it may not only decrease the ability to see during its presence within the field of vision, but it will also tire or permanently injure the eye. The seriousness of this latter effect depends largely on the distance between the eye and the light source, and also upon the brightness of the back-ground against which the source is viewed.

In order that a lighting system may not prove objectionable from the standpoint of glare, it should be designed with a view to the following requirements:

First—No source of light of high intrinsic brilliancy should be so located that it can readily be seen, except at a considerable distance. In cases where it is impossible to screen the source entirely, the presence of a brightly lighted background, such as the surface of a reflector, will considerably diminish the harmful effect.

Second—No considerable amount of light even from a well diffused source should be allowed to enter the pupil of the eye directly when it is focused on the work; this usually requires that no light source, unless remote, be visible when the head is inclined toward the working surface.

Third—It is desirable that the area within the field of vision be uniformly illuminated; at least, the brightness of any portion of this area should not be materially greater than that of the object under observation.

Fourth—Specular reflection should be guarded against so far as possible. Where the position of objects worked upon is fixed and the greater portion of the work is in one plane, lamps can be so placed as to avoid specular reflection in the direction of the eye. In the majority of operations in industrial plants, however, such conditions do not exist and one should direct his efforts toward producing conditions which will allow the operator readily to shift his position in such a manner that direct reflection cannot reach the eye.

Mr. M. D. Sims, of the Memphis-Buckeye Cotton Oil Mill, is now Superintendent of the Jackson mill. Mr. A. M. Henry, the former superintendent died on January 14th.

ISOLATED GAS PLANTS.

In the first year of the seventeenth century a Dutchman named Van Helmont, during a test with fuel, discovered that coal yielded up "a wild spirit." He forthwith called this strange property "geist." The English cognate, "gas," was adopted in the British Isles, although it took nearly a century to establish it in common usage.

About 1650 a Yorkshire rector, Dr. John Clayton, had a similar experience. He had been hearing of a weird flame a yard wide and two yards long that burned incessantly in a White Haven coal mine. The workmen did not know what to do with it, so they built a chimney-like structure around it, and carried the blaze to the top of the pit where it sprang forth high over the mine, lighting the country for miles around. Dr. Clayton set about emulating nature. He put some coal in a retort and set it on fire. The result was more than he had bargained for. A violent explosion followed. He continued his experiments, however, and was able to imprison the gas in bladders.

The real discoverer of coal gas as a means of supplying light was William Murdoch, a Scotchman. As a result of his study and research he was able, in 1792, to light his house with gas, and in 1802 he lighted, in the same manner, the Birmingham factory of his employers.

In 1812 a company was formed which began the lighting of London by gas. This was the premier gas undertaking of the world. In 1816 the first gas company of the United States was founded in Baltimore. For many years gas was used chiefly for lighting, but when the electric light became a successful competitor for this business the gas companies developed the heating business, in which they have been quite successful.

At the present time gas is applied to a multitude of uses wherever available for cooking, lighting, heating and power. In the larger cities it is an antiquated concern indeed that does not avail itself of the use of gas.

But with factories located in small towns or beyond the reach of public service gas mains, the case is different. They are under a handicap and must either make their own gas or use some other fuel and method of illumination. Progressive factories have installed their own gas machines for overcoming the disadvantages due to their location. Such machines have been standardized and in successful use for many years. Excellent results, according to reports from the users, have been secured from the installation of the Tirrill Equalizing Gas Machine. 103 Park Ave., New York.

This Tirrill Machine makes gas automatically as wanted; furnishes a steady supply of gas of a uniform quality, non-poisonous and smokeless. It is

simple, works like a clock, and is noiseless in operation. There is no delicate mechanism or complicated parts to get out of order, and the whole mechanism is durable.

TEST YOUR SEED FOR MOISTURE.

The majority of oil mills are not equipped with apparatus for testing the moisture in seed, and, therefore, when buying seed the purchasers are buying water, at the seed price, without exact knowledge of the value of the seed.

The Brown-Duvel moisture tester, manufactured by the Hess Warming & Ventilating Co., Chicago, is officially required in the testing of grain in the United States, and its use is equally desirable in testing of cotton seed. The apparatus is simple, and the test requires 20 minutes only. This tester is better illustrated on page 23.

EFFICIENCY BULLETIN.

Milling efficiency this month shows a decided betterment over the same period last year. This is particularly true in regard to the oil in hulls. The worst average this month is practically the same as the month's average last year.

As we anticipated in our last month's report, the per cent of protein in cake is increasing. Some mills are having great difficulty in getting the protein down to selling basis. In spite of the increased protein content, the per cent of oil is low showing increased efficiency in extraction.

The interest in seed analyses continue. More than twice as many seed samples being analyzed this month as for the same period last year.

The quality of oil is poorer than usual which will mean trouble between the buyer and seller.

A number of mills have already shut down and of those that are running quite a few will shut down for the season in a few weeks. The drought curtailed the seed tonnage more than ever before.

Cake Analysis.

	Number Samples	Moist	Am.	Protein	Oil	Standard
Avg. All Mills	742	8.42	8.30	43.13	6.10	.73
Best Avg. Result		9.11	8.40	43.18	4.93	.51
Worst Avg. Result		7.13	8.72	44.84	7.69	.87
Avg. This Month						
Last Year	768	8.10	8.19	42.11	6.58	.80
Annual Average						
Last Year	4698	7.88	8.13	41.77	6.50	.80

Hull Analysis.

	Number Samples	Whole Seed and Meats	Oil in Clean Hulls	Loss Oil	Total per Ton	Stand- ard
Avg. All Mills	197	.0	.53	.57	.05	1.52
Best Avg. Result		.0	.27	.30	.00	.80
Worst Avg. Result		.06	.86	.97	.37	2.53
Avg. This Month						
Last Year	329	.0	.80	.96	.36	2.56
Annual Avg.						
Last Year	1867	.01	.98	1.16	.52	3.00

Oil Analysis.

	Number Samples	Refining Loss	Color Red	Free Acid
Avg. All Mills	34	10.6	7.1	2.2
Best Avg. Result		8.6	4.9	1.3
Worst Avg. Result		26.5	15.4	8.6
Annual Avg. Last Year	56	7.8	6.2	1.6
Avg. This Month Last Yr.	468	7.6	7.6	1.8

Seed Analysis.

	Number Samples	100 Lbs. Waste Gal Oil Moist.	Per Ten Per Cent	Lbs. Cake Amm.	Perct. Oil in Seed	Perct. Oil in Meats
Avg. All Mills	102	10.77	35.8	1060	4.24	17.12
Best Avg. Result		12.80	40.1	977	3.91	18.82
Worst Avg. Result		10.40	29.6	1075	4.30	14.08
Avg. This Month						
Last Year	47	6.92	34.6	921	3.88	16.66
Annual Average						
Last Year	555	8.05	38.5	1008	4.25	18.18

THE FORT WORTH LABORATORIES,
R. H. Fash, Vice President.

Jan. 21, 1919.

OIL MILL CHEMICAL CONTROL BULLETIN. Report For Month Ending January 15, 1919.

	Average Analysis C. S. Cake—Meal				Average Analysis Cotton Seed
	Moist	Am.	Prot.	Oil	Number of Seed Sam- ples subvitted during the month were small, hence their average would not represent seed crushed during the month.
Avg. All Samps ...	8.60	8.54	43.90	6.25	
Avg. Best Samps ..	8.42	9.51	48.88	6.52	
Avg. Worst Samps	9.19	7.12	36.60	5.85	

	C. S. Hulls			Crude C. S. Oil		
	Whole Seed and Meats	Oil in Hulls	Total Oil	Rfg. Loss	Color Red	Free Fatty Acids
Avg. All Samps	0.12	0.56	0.60	9.6	6.8	1.9
Avg. Best Samps	None	0.25	0.25	7.8	5.0	1.2
Avg. Worst Samps	0.52	0.81	0.95	10.7	8.6	2.4

P. E. Tilson, Chemist.

HOUSTON LABORATORIES.

Houston, Texas, January 5th, 1919.

The Carver Cotton Gin Company of East Bridgewater, Mass., have re-opened their Atlanta office in the Empire building and Mr. R. M. Flaker is in charge.

We have received The Texas Agricultural Experiment station's year report on Commercial Feeding Stuffs which is brimful of useful information. We are very glad to have it on file.

The Laurel Oil & Fertilizer Company of Laurel, Miss., which was destroyed by fire has been rebuilt with two more Continental linters added. Mr. G. W. Covington of Hazlehurst has been appointed president.

The Itta Bena Cotton Oil Company which has not been in operation for several years, has been opened up and the name changed to Itta Bena Cotton Oil Works. Mr. S. F. Jones, of Greenwood, is president, R. H. Rust, of Greenwood, is manager.

TEXAS AND THE SOUTHWEST

(Donald Lowrie, Dallas, Tex., Special Correspondent for Oil Miller)

FREDERICK GEORGE HILLJE

The oil mill industry has suffered a great loss in the death of Frederick George Hillje who died at San Antonio, December 12, 1918. Mr. Hillje was one of the pioneers in the cottonseed oil business in Texas and was at the time of his death president of the San Antonio Cotton Oil Company. We can pay no better eulogy to Mr. Hillje than to quote what Mr. J. C. Weaver who knew him well wrote of him.

"Frederick George Hillje was one of the best and most lovable men the writer ever knew. On those all too rare occasions when business brought a meeting with him, it was refreshing to be in his presence. He possessed every characteristic of the true gentleman, and he was sympathetic, charitable and true as gold. He was one of those men who stand out clearly—different from others. Unassuming, kind, honorable, and yet a splendid business man. His deeds of charity were numerous, but were known only to a few of his most intimate friends, and not altogether to them. Mr. Hillje was a native of Colorado County, Texas, and was buried there at Weimar. The funeral was attended by a large number of friends many of whom traveled long distances to pay the final tribute to this splendid American. I feel moved to write this account of Frederick George Hillje because his life exemplified what a man can be and do in the world. Successful, he found his chief joy in helping others toward success, and in alleviating the sorrows of those incapable of achieving success. He was tolerance and broad-mindedness personified. A man whom it was a pleasure to know, an inspiration to love and a keen sorrow to lose."

TEXAS STATE ENTOMOLOGIST VERIFIES NEW PINK BOLLWORM INFESTATION.

E. E. Scholl, chief entomologist of the Texas Department of Agriculture, has verified the new infestation of pink bollworm, as reported from Presidio County, by finding specimens of the pest at Candilaria, Ruidosa, Presidio and Redford, all of Presidio County. Plans for the absolute quarantine of this section are to be put into operation, as will be the case in the Big Bend country, and at Barstow, Ward County, and Boquillas, Brewster County, where the worm has been found by Federal Inspector Ohlendorf. Unusually heavy rains during the fall and winter have prevented to some extent the cleaning up of cotton fields in quarantined Zone No. 2, but it is planned to have all cotton stalks destroyed before the end of the winter, so that all danger of reinfestation in that section will be removed.

TEXAS LEGISLATURE TAKES UP PINK BOLL WORM FIGHT

Would Establish Quarantine Areas Along Rio Grande.

Zone protection against the pink boll worm is the purpose of a bill introduced in the Texas House of Representatives on February 3, by Leonard Tillotson and others. The measure defines a zone of the counties that touch the Rio Grande River between El Paso and Brownsville, or practically the entire Mexican border. While the bill does not specify that no cotton shall be planted in that section, it leaves the several counties subject to a rigid quarantine whenever the presence of the pink boll worm may make such quarantine necessary.

The counties listed in the zone are El Paso, Hudspeth, Culbertson, Jeff Davis, Presidio, Brewster, Terrell, Val Verde, Kinney, Maverick, Webb, Zapata, Starr, Hidalgo, Cameron and a part of Dimmitt.

If, at any time, the pink boll worm is discovered across the Rio Grande, in Mexico, the bill gives the Commissioner of Agriculture the privilege of making any inspection in the nearby United States territory. If such inspection warrants the action, in the judgment of the commissioner, a quarantine can be declared over the area under suspicion. The Commissioner is limited, however, and cannot establish a rigid quarantine without first giving reasons therefore to the governor of the state. It is then up to the governor to act upon the advice of the commissioner of agriculture.

The measure provides penalties against any person or persons who may violate the regulations prescribed by the governor whenever the establishment of a quarantine is deemed necessary.

CONTINUED HEAVY RAINS IN TEXAS MAY DEFEAT REDUCED COTTON ACREAGE PLAN.

Excessive rains throughout Texas, while affording crop prospects for 1919 unsurpassed in many years, have considerably upset the program of the farmers. The present condition of the ground precludes the planting of oats before the latter part of this month, granting that no heavy rains intervene, and even corn planting may be delayed by the same causes. For this reason some of the farmers may find that cotton will be the most seasonable crop by the time they can work the fields, and this fact may tend to defeat, at least in degree, the plans that are being made for a general reduction of the acreage planted to this staple.

TEXAS AND SOUTHWEST (Continued)

TEXAS GOVERNOR MAKES SPECIAL PLEA FOR PINK BOLL WORM LEGISLATION.

In a special message to the legislature of Texas on February 5 Governor Hobby recommended an amendment to the pink boll worm law so as to enable him to withdraw non-cotton zone proclamations and issue new proclamations to regulate cotton growing in prescribed zones. The message reviews the pink boll worm invasion of certain parts of Texas, and concludes:

"It is the judgment of the Commissioner of Agriculture and the entomologists of his department, as well as the opinion of the entomologists of the United States Department of Agriculture, that it would be unwise to release this territory from all supervision. The Commissioner recommends that the law be so amended and its provisions so modified as to provide for the creation, by proclamation of the Governor, of a regulated zone in which such reasonable measure of supervision may be exercised as to enable the State Department of Agriculture to detect promptly any new outbreak of the worm, making it possible to prohibit or supervise the growing of cotton in an affected zone, instead of giving power to prohibit it only.

"I fully concur in this proposed amendment, and inasmuch as the time will soon be here when planting will begin, I am presenting the subject of amending the present pink boll worm act to the Legislature, with the recommendation that prompt consideration be given it and that such action be taken as will authorize me to withdraw the present non-cotton proclamation and issue a proclamation providing for a regulated zone in which cotton may be grown under such general rules as may be deemed essential by the Commissioners of Agriculture to the protection of the cotton industry of the remainder of the State and that of other cotton growing States.

"It would have been impossible to do so much and effective work in eradicating the pink boll worm had not Congress appropriated a large sum of money for such purposes. After the initial appropriation by Congress for such purposes as the pink boll worm, it is the usual custom to confine their appropriation to a 50-50 basis with the State, for example, citrus canker. Slight infestations have been found this season in other portions of the State. I suggest that you make ample appropriations for completing this very important work."

WOULD PROHIBIT OWNERSHIP OF STOCK IN COTTON GINS BY COTTON OIL MILLS.

Senator Dorrough, who represents the Texarkana district in the Texas Legislature, has introduced

three bills to regulate the oil mill industry. One bill forbids oil mills or persons connected therewith from owning stock in cotton gins, the second bill requires alienation of such stock, where owned, within ninety days after the passage of the bill, and the third measure fixes the cost of ginning. The maximum ginning prices fixed are as follows: Dry picked cotton, 30 cents per hundred, half and half, 50 cents; snap cotton, 40 cents, and bollies, 50 cents per hundred pounds of seed cotton, provided that any load of dry picked cotton containing 50 per cent of snap cotton shall be considered snap cotton, and where it contains 50 per cent of bollie cotton shall be considered bollie cotton.

Senator Dorrough has addressed an appeal to the farmers of Texas, asking them to support his measures. The appeal says:

"I have introduced three bills in the Senate with the whole purpose of endeavoring to create an open and competitive market for ginning cotton, sale of cotton and the sale of bagging and ties. These bills have been referred to the Committee on Internal Improvements.

"Doubtless many of you will be called upon to sign petitions or telegrams protesting against the passage of all of these bills. I urge you not to do so, but will welcome any investigations you care to make, either as individuals or collectively, and will be glad to receive such suggestions as you may offer.

"If any of you doubt the connection between some of the large oil mills and some gins of this State, the records of the investigations completed by the Attorney General are at your command.

"If you desire to have an uncontrolled market for ginning cotton, the price of bagging and ties regulated by the law of supply and demand, and a free and independent market for cottonseed, please write your representative at Austin to carefully study these bills and to support them as they will, in a measure, tend to relieve past conditions with which you are too well familiar."

STABLE COTTONSEED PRICES TO PREVAIL.

Southwestern cotton seed interests received word from the Food Administration on January 29 that the price stabilization plan for cotton seed and its products, put into effect last September, will continue through the present season, if all elements of the industry continue to co-operate. The administration's statement says that three-quarters of the crop has already been purchased by the crushers and that the industry is following normal lines. Under the stabilization plan a base price of \$71 a ton is maintained.

IMPORTATION OF VEGETABLE OILS.

Aspegren & Company, of New York have prepared a comparative table of the importation of vegetable oils covering the period of years from 1911 to 1918 inclusive. This contains much useful information and food for thought. Shall we continue to import this amount of oil or shall we place an embargo on its importation at least for a time until conditions in the oil market have adjusted themselves. This to some seems to be a solution of the prob-

lem of the surplus which is now unmoved in this country. If we continue to import, there is bound to be a reduction in price and a corresponding loss to those now holding oil. The table shows exactly what has been imported and the growth of the imports has been steady each year. In normal times, we should be able to take care of and handle our importations advantageously but we do not desire to do this at a reduction of profits, in fact an actual loss, to our home production.

	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Cocoanut Oil	46,736,621	54,099,842	74,067,372	61,620,683	66,121,812	90,339,800	260,050,283
**Estimated amount of Cocoanut Oil							
produced from Copra Imported ..	40,492,152	16,823,315	26,935,133	60,512,024	67,501,494	161,481,511	288,552,389
Soya Bean Oil	26,515,109	12,218,864	15,572,719	19,204,419	113,354,480	169,205,733	327,551,218
*Peanut Oil	6,619,800	9,989,972	9,078,452	6,375,383	12,515,424	25,884,218	63,383,575
*Chinese Nut Oil	37,118,214	64,673,814	35,020,959	35,792,055	42,759,725	49,827,601	36,438,623
*Olive Oil (Edible)	37,777,247	38,778,303	47,207,342	51,036,590	55,136,425	59,024,028	11,118,320
*Olive Oil (fit for Mfg purposes only)	4,911,848	4,417,261	6,183,548	4,993,486	6,137,453	5,276,319	302,851
Palm Oil	47,246,113	51,073,426	59,154,082	31,324,205	35,216,846	44,109,031	18,921,718
Palm Kernel Oil	26,547,566	23,406,805	34,968,917	3,387,176	6,752,276	1,699,419	34,470
Cottonseed Oil	1,969,269	4,640,839	18,227,919	13,970,407	17,351,602	12,360,020	16,967,737
Total	275,933,939	262,122,441	326,407,443	288,206,428	422,847,537	619,207,680	1,023,321,184

*The Department of Commerce report quantity of these oils in gallons so for purpose of uniformity with Census report on Domestic production of Cotton Oil, we have reduced same to pounds on basis of 7 1/2 pounds to a gallon.

**This is an estimate and to arrive at same, we have figured oil yield at 60 per cent

Change in Management of Cotton Oil Company.

A change in management of the East St. Louis Cotton Oil Company, whose head office is at East St. Louis, Ill., but which has operated a large branch of the business for the past number of years in St. Louis, Mo. has been made.

H. Highfill, district manager in St. Louis, retires from the firm and is succeeded by R. H. French, who will have general supervision of the company's interests in the St. Louis territory, which covers a large part of Southeast Missouri and Northeast Arkansas. There will be a division of the gin properties formerly operated for joint account, and Mr. Highfill will take over certain of the gins in which he has owned an interest, receiving full title thereto in exchange for the stock he has owned in the company. These gins, numbering perhaps half a dozen, are located in St. Louis and Dunklin counties and in future they will be operated by Mr. Highfill in connection with his other extensive interests. This is an arrangement which will probably be welcomed by cotton growers of the two counties.

Mr. French, the new manager, has been connected with the company for the past several years and is thoroughly in touch with affairs. Mr. W. V. Robinson, formerly bookkeeper for the Ward-Coppage Mercantile Company, is also to be associated with the oil company in future as office manager.

The Preservation of Seed By Drying.

Hess driers for cotton-seed have been extensively used in some of the largest oil mills in the south for the past five or six years, but quite naturally, because of the great advantage their use gives to mills equipped with them, the proprietors of such mills are not advertising the benefits they receive from the driers. As a matter of fact, however, the benefits have been very great, not only enabling their owners to purchase seed without fear of poor keeping qualities, but to prevent absolutely all loss by deterioration, and finally, when pressing the seed, to secure more oil, and a higher grade of oil, than is obtained from seed not perfectly preserved, and and in which fermentation has altered the color and diminished the yield.

The drying of seed is inexpensive, and completely arrests all changes. There are, of course, no chemicals nor preserving substances used, and therefore no effect upon the machinery used in crushing the seed, as is the case when salt or other corrosive substances are used.

The Hess Warming & Ventilating Co., whose advertisement appears on pages 22 and 23 invites the correspondence of all oil mills, on the subject of dried installations.

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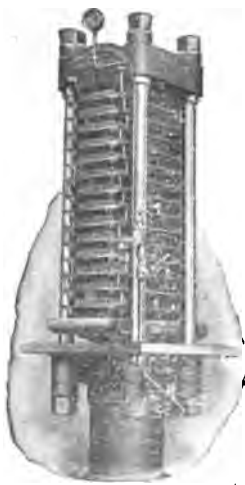
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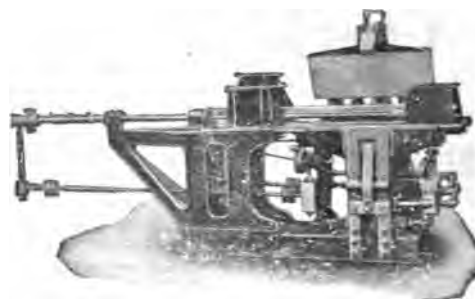
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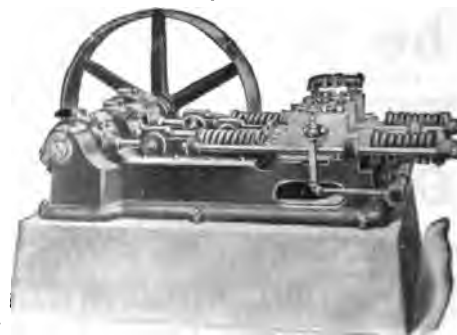
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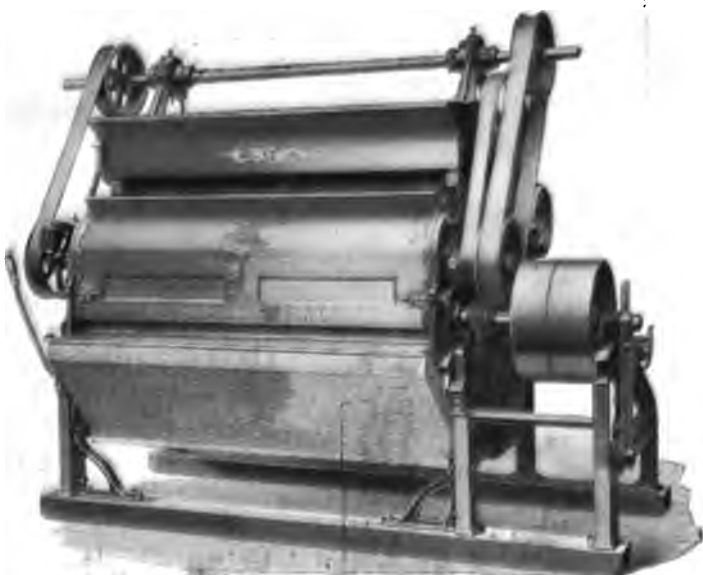
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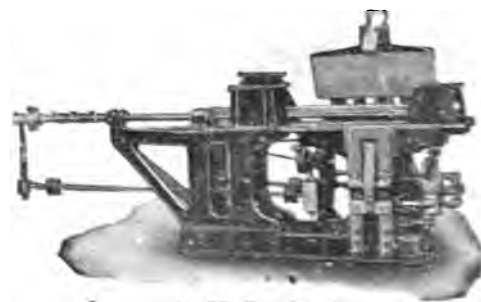
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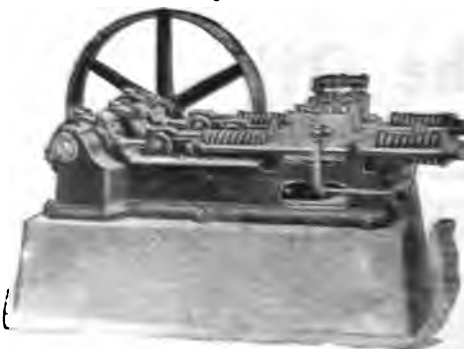
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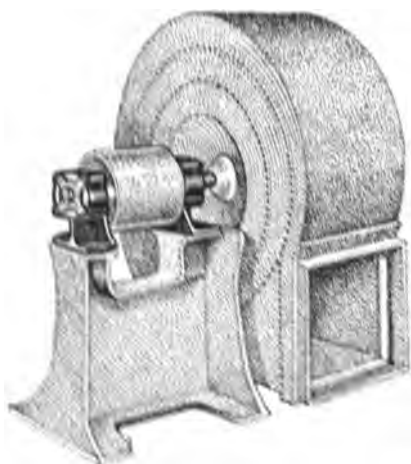
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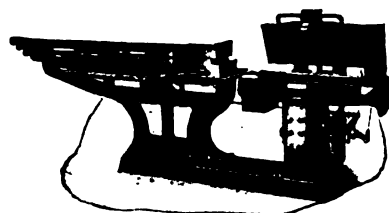
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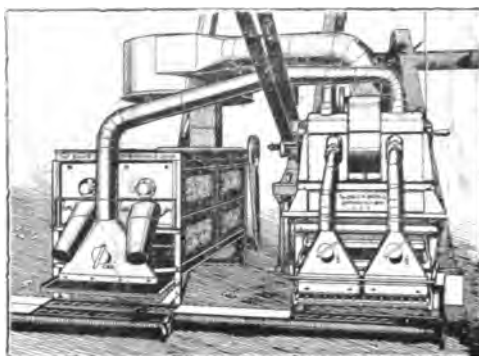


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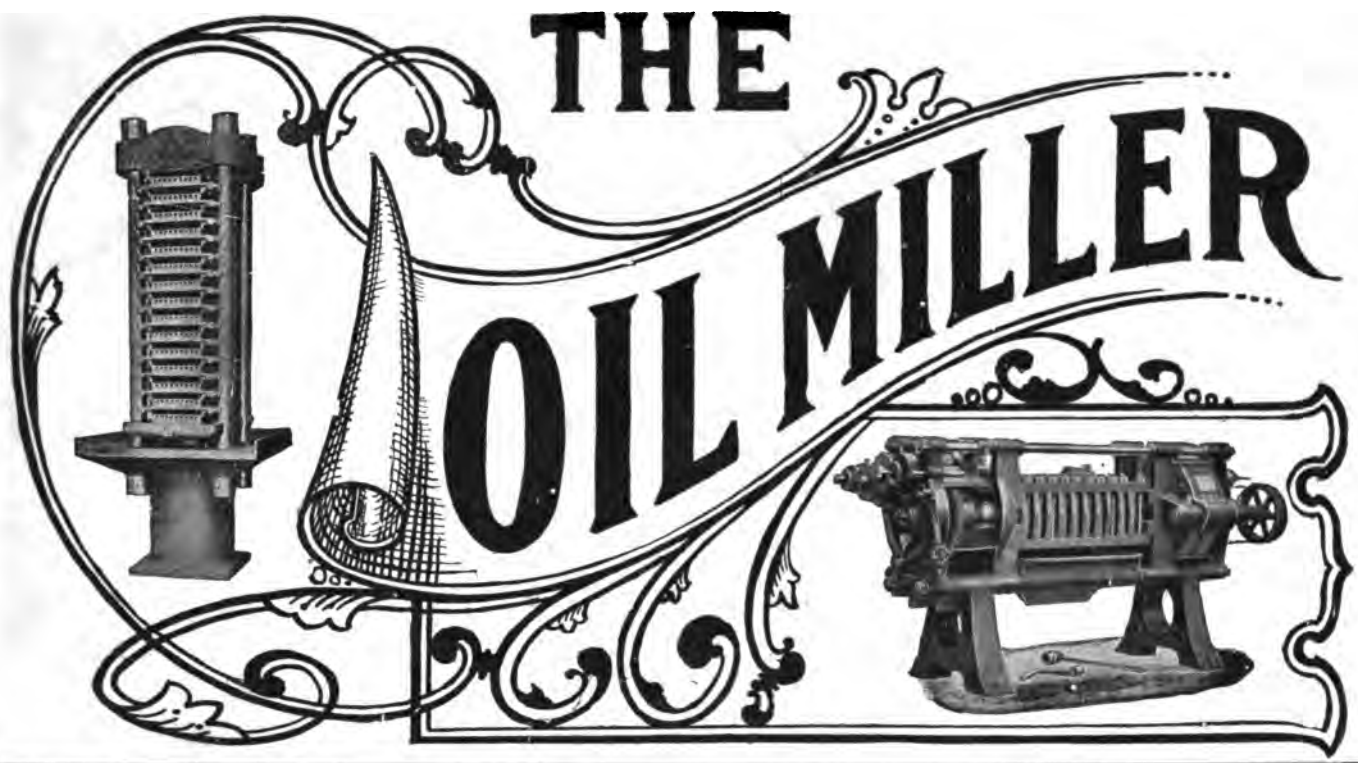
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SCIENTIFIC

ATLANTA, GA.
PUBLISHERS' PRESS, PRINTERS

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Vol. IX. No. 8.
Monthly.

Atlanta, Ga., April 1919.

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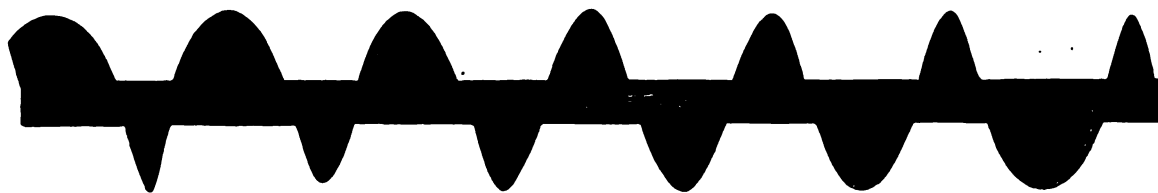
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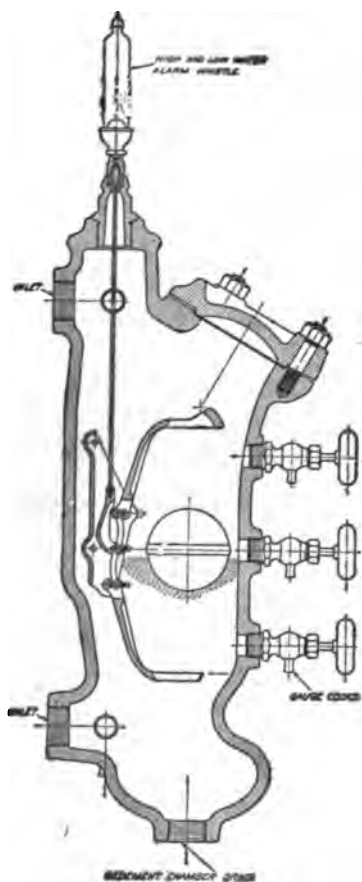


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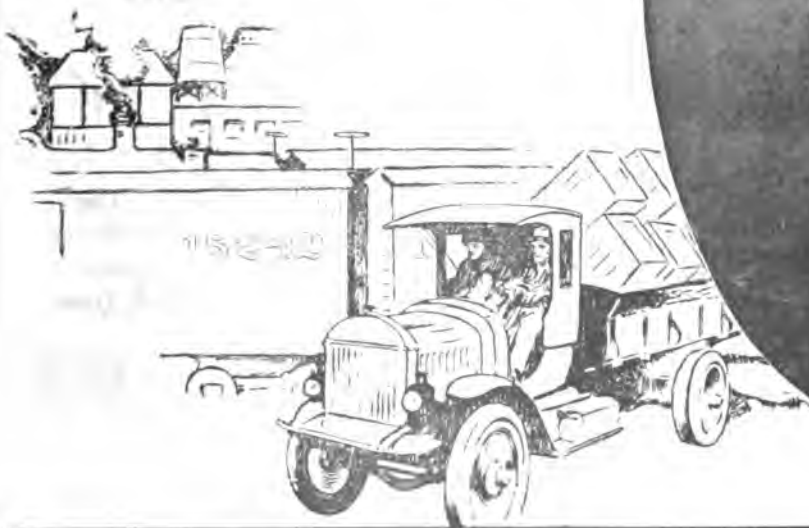
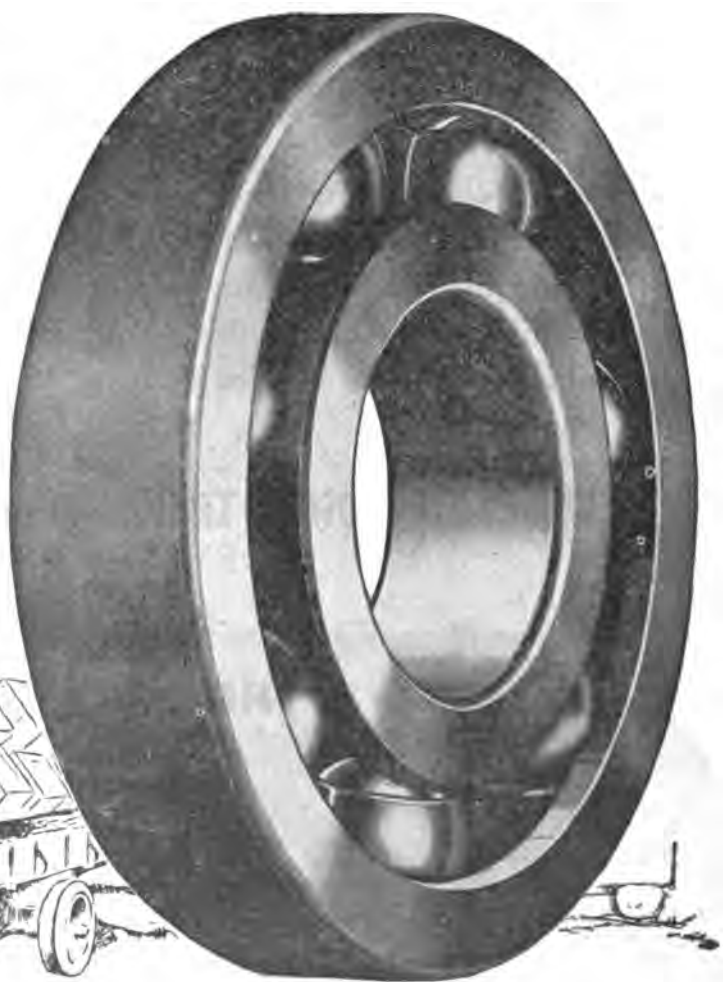
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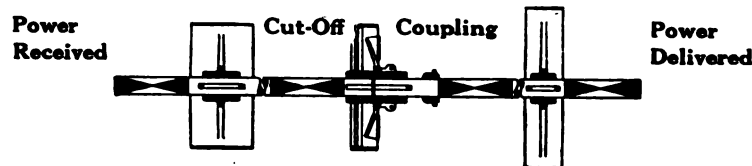


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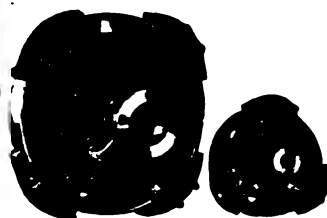
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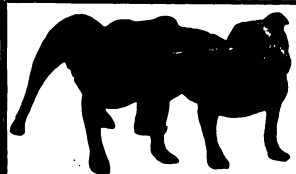
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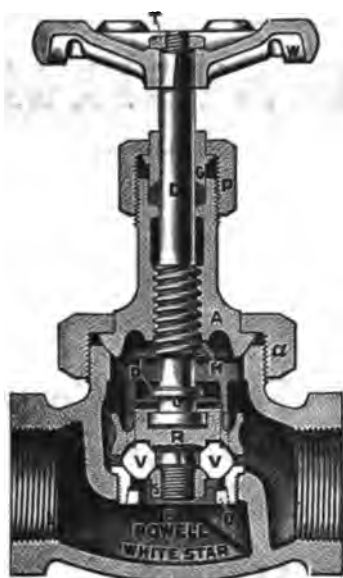
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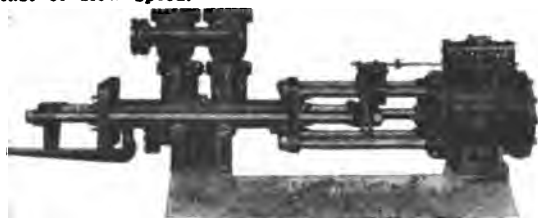
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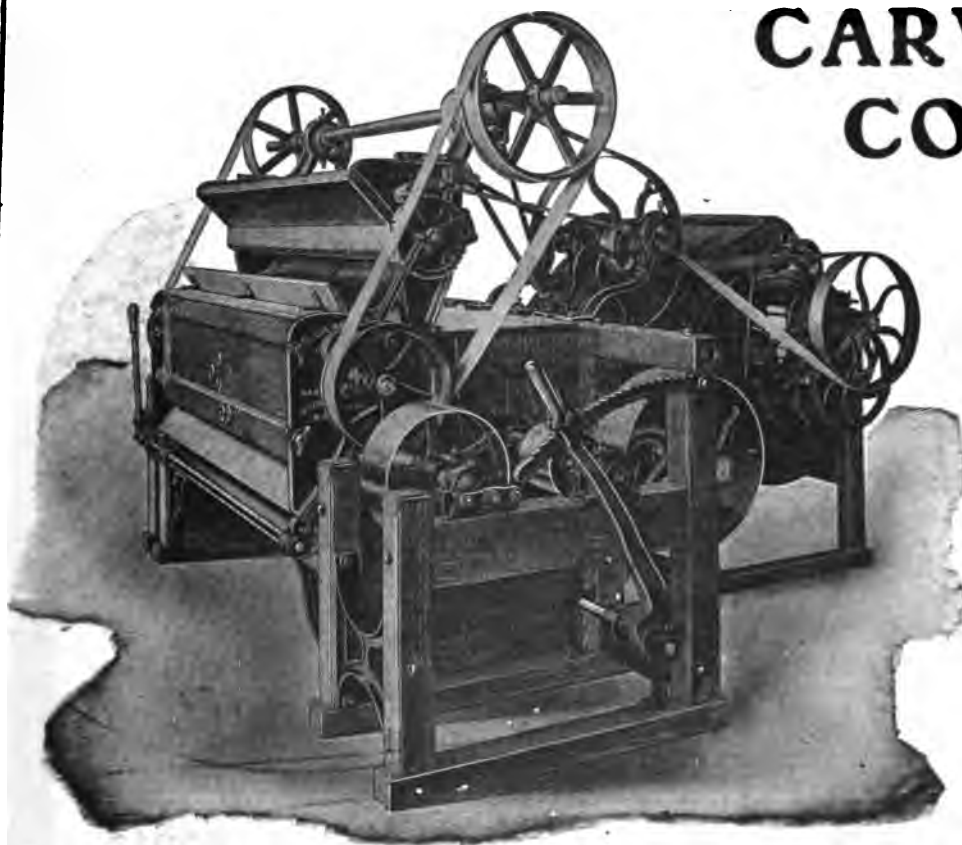


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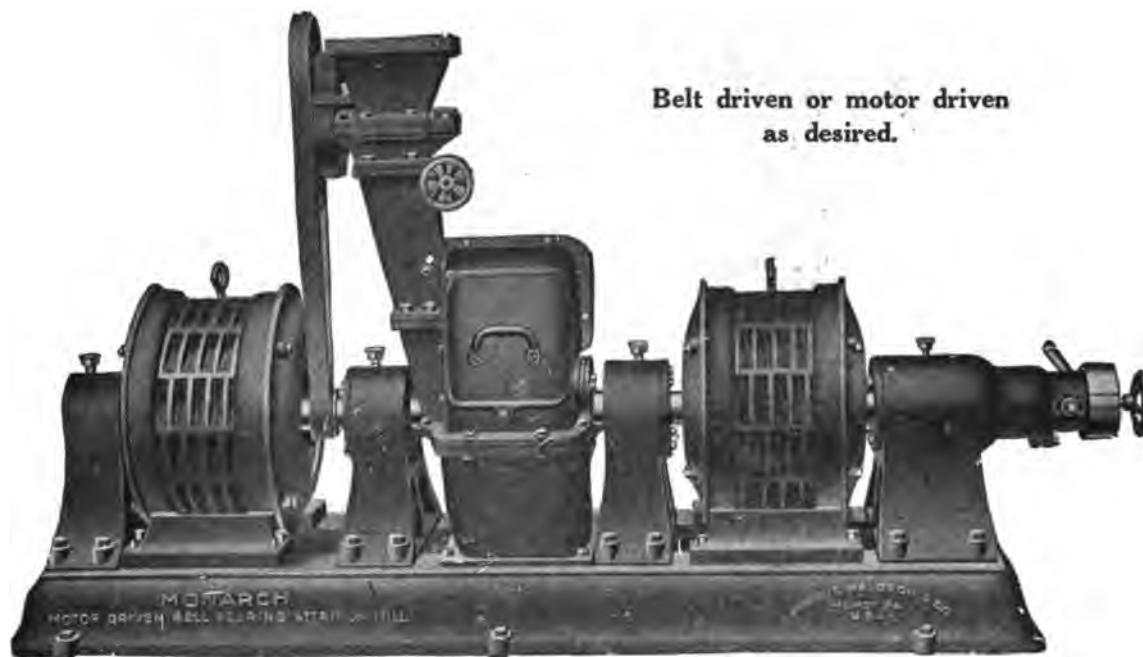
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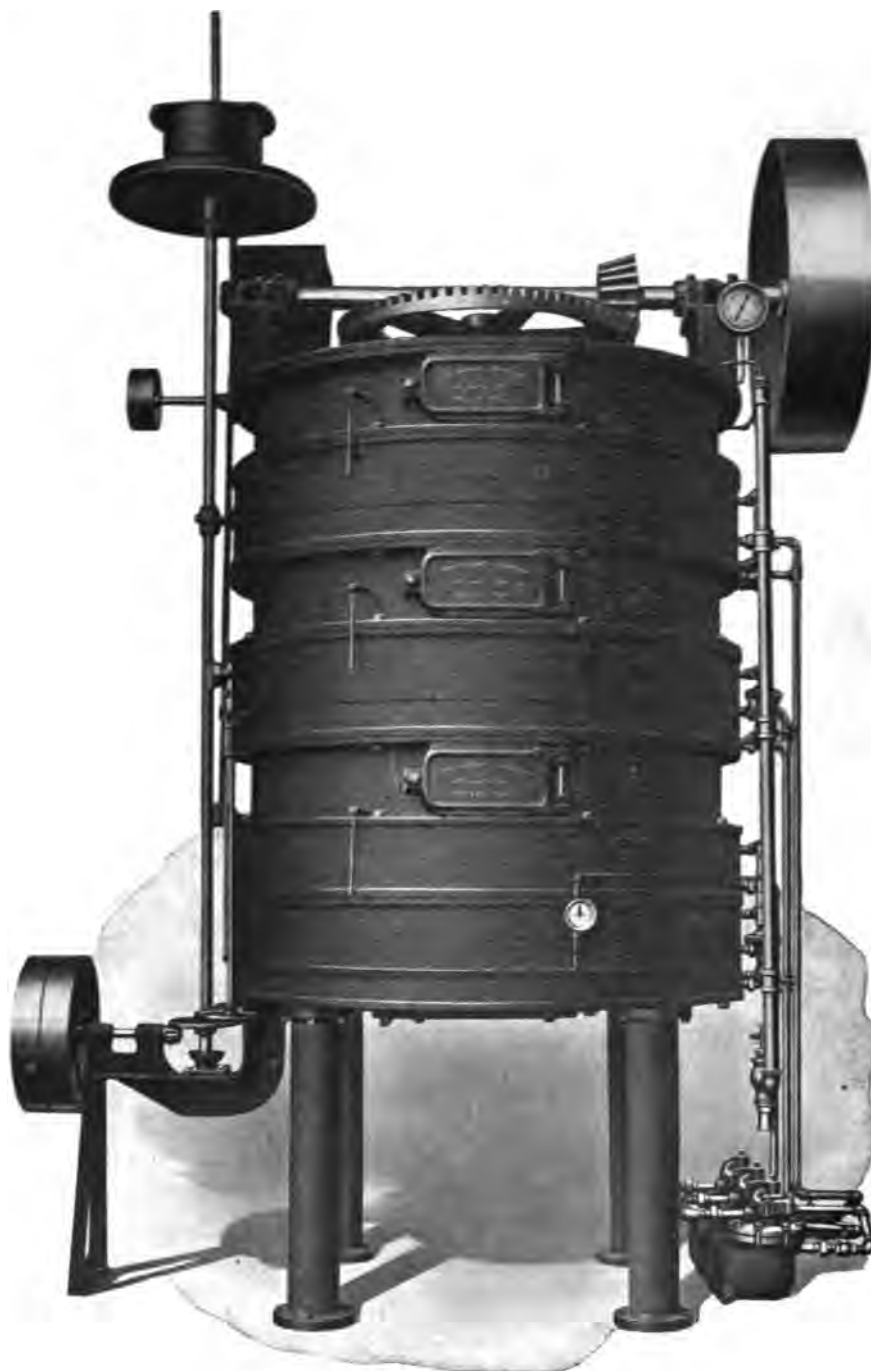
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ATLANTA **DALLAS**

THE OIL MILLER

Vol. 9.

Atlanta, Ga., April 15, 1919.

No. 8

THE OIL MILLER

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MARY R. BURRUSS, Manager.

KATHERINE G. BIRMINGHAM, Editor.
Atlanta, Ga.

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JUNE 4th, 5th AND 6th.

These are the days every oil mill superintendent, every oil mill manager and as many more of their organization as they can possibly spare and still run the business will be in Atlanta to attend the Interstate Oil Mill Superintendents' Association meeting in conjunction with the Oil Mill Superintendents' Exhibitors Association.

Plans are maturing in fine shape. The entertainment and program committee are working with extra enthusiasm this year and from what they tell us this is going to be the star meeting of any ever before held. The machinery men are all enthusiasm and we doubt if there will be room to accommodate all of those who are clamoring to exhibit.

You can see, therefore, how important it is that each and every one of you should not miss this year's meeting. If you can't arrange it any other way, take these days from your vacation. The climate of Atlanta is ideal and especially at this season of the year. You can make no mistake in coming for any reason. The talks will be interesting, the machinery exhibit an education and the entertainment enjoyable so come and join the merry chorus "Hail, hail the gang's all here."

MEETING INTERSTATE COTTON SEED CRUSHERS' ASSOCIATION.

New Orleans, that ever charming city, will be the gathering place on May 19th, 20th, and 21st of the Interstate Cotton Seed Crushers' Association, headquarters the Grunewald Hotel.

Everyone knows the importance of being present at this meeting for the interchange of ideas and the general good fellowship which has made these meetings noted will still be in evidence. The time of the year and the city selected make it especially attractive and every member should make his plans now to be present.

BUILD IT NOW!

You have been contemplating for some time putting up additions to your mill, perhaps it was a new seed house, maybe extending the linting room, increasing your space everywhere to take care of a greater amount of raw product. Stop contemplating and get busy.

Maybe you had in mind a new oil mill. Build it now!

Our soldier boys have come or are soon coming back—be sure you are doing your part to supply that work which they will need and want. Labor is high, but if the men have work they spend the proceeds and high paid labor is no menace to the country, but unemployed labor is. High wages make for general prosperity.

In the last two years neither labor, materials or machinery were available. These can now all be had and this is the time to put in your orders and start your building. It will help stimulate business all along the line.

A happy, contented and employed middle class is the back bone of your country. Do your part to offset the reign of Bolshevism which will spread

throughout our own country if we hesitate and delay about spending the money for necessary improvements. It will not be a losing investment, rather time will prove that you were one of the far-seeing citizens, willing to make a slight sacrifice, though it doubtless will never be that, to forward the welfare of your country at the greatest crisis in its history.

Build it now and help make this country safe for democracy.

THE MEMPHIS CONVENTION.

The National Oil Mill Superintendents' Association have decided on May 27th, 28th and 29th as their convention dates and Memphis, Tenn., is the place selected.

In conjunction with it the Oil Mill Machinery Manufacturers and Supply Association will hold their exhibit.

This year, when more normal business and travelling conditions have been resumed, this opportunity for the oil mill superintendents to get together should meet with a most generous response. Every superintendent will find it to his advantage to make the endeavor to go to Memphis, where there will be much of interest and benefit to him.

PEANUT OIL MOVING.

The report of a sale of several hundred tanks of peanut oil recently somewhat relieved the situation in that stock. This is but a step and makes only a slight dent in the total aggregate of oil still to be moved.

The announcement at the recent conference in Washington that the Food Administration had allocated 22,000,000 pounds of lard substitute for the relief work in Europe and the subsequent order for nineteen thousand tons or thirty eight million pounds of lard substitute are hopeful indications that orders, long-hoped for, will commence pouring in. The shower of orders cannot be too heavy nor too quick for the comfort of those now holding stock.

The moving of the lard substitute will mean a replacement by crude oil and this probably accounts for the moving of the peanut oil. We trust the Food Administration will not rest on their laurels with this one shipment but add new leaves with as much frequency as possible.

TO REPRESENT SPROUT, WALDRON & CO.

Mr. J. R. English, well-known to the southern oil mill trade is now making his headquarters at the St. George Hotel, Dallas, Texas, and will handle the Southwest for Sprout, Waldron & Co., Muncy, Pa.

LETTER FROM PRES. T. T. WOLFENDEN.

To The Members of the

Interstate Oil Mill Sup'ts Association.

Gentlemen:

The next meeting of the Interstate Oil Mill Superintendents' Association will be held in Atlanta, Ga., the first week in June. The exact dates are June 4th, 5th, 6th. I would like to impress those dates on the minds of every oil mill superintendent so deeply that it would be impossible to erase them until he walked into the door of the city auditorium in Atlanta. If we can get you to attend one of these meetings we feel sure that in the coming years you will be there in keeping with the wishes of the mill directors, managers and all interested in the business.

The man who was present last year or the year before I do not believe needs any urging, he will only want to know the date and place of meeting and have the chance to come. The Superintendent who has never been should celebrate this peace year by attending this meeting and getting himself in line with the best mill men in the country.

It is not only the superintendent but the manager, the assistant superintendent, the night man, the linter man and every one interested in the mill, who is urged to be present.

The Secretary of the Machinery Men's Association has told me that there is more interest manifested in the machinery display this year than ever before, and they are planning a big show which will put you in touch with all the improved methods and machines now being used in the mills.

Work on the program has been started and you will find that the meetings will be instructive and full of interest.

I will try and communicate with each of you before long, but it is none too early to lay plans to be in Atlanta on the 4th, 5th, 6th, of June.

Yours very truly,

T. T. Wolfenden, President,

NATIONAL OIL MILL SUPERINTENDENTS' ASSOCIATION CONVENTION.

The Oil Miller,

Atlanta, Georgia.

Gentlemen:

I am pleased to announce, through your columns, that our annual convention will be held at Memphis, Tennessee, on May 27, 28, and 29th, and we are expecting, and arranging for the biggest and best meeting ever held by the association, and take this opportunity to extend a cordial invitation to every

oil mill manager, superintendent, assistant superintendent, night and linter foremen, to attend our convention, whether he be a member of either of our associations or not. We are arranging our program, which we feel confident will be interesting, and hope profitable. I don't believe that we are following exactly previous proceedings in arranging the educational part of our program, in that we desire to eliminate, as far as possible, anything pertaining to long, uninteresting papers, on what might be termed as long grinds of old subjects.

We hope to have some new subjects prepared in more condensed form than usual, in order to gain time, and to use this gained time in a fuller discussion as I believe more knowledge can be gained, and more interest taken in such discussions than in long drawn out papers, where all the time is consumed in reading, and none left for discussion, as in a great many instances the real points of interest, in such papers, are forgotten before the reader has finished.

The feature of outside addresses I am sure will be entertaining, as well as instructive, as we are handling this part of our program to the end of having some of the very best recognized authorities on the subject assigned them to be had in the country.

In regard to the entertainment feature, and machinery exhibit, I am sure that they will be second to none.

I again beg to extend to every member of the Eastern association a special and most cordial invitation to attend our convention, as a visitor, as presume this is the only way we could expect them as apparently the Gods have forbidden that the two associations meet in joint session; however, until there is a ruling made by them, prohibiting our visiting each other's meetings, I am sure we all can broaden our minds very much by such visits. It is the writer's intention to attend the meeting in Atlanta in June, and expect to leave there, as he always does, very much benefitted.

As soon as our program has been finished, will be pleased to send you copy of same.

Yours very truly,

National Oil Mill Superintendents' Assn.,
P. Z. Harlee, President.

Canners on the Pacific coast, because of the high price of olive oil, are using more and more peanut and cottonseed oil for this year's pack of tuna fish and sardines.

Although American peanut oil was an almost unknown product before the great war, in 1917 it ranked third in the vegetable oils made from the home-grown products.

CONVENTION CALENDAR.

Society of Cotton Products Analysts—May 16th-17th, New Orleans, La., Grunewald Hotel.

Inter-State Cotton Seed Crushers' Association—May 19th, 20th, 21st—New Orleans, La., Grunewald Hotel.

National Oil Mill Superintendents' Association—May 27th, 28th, 29th—Memphis, Tenn.

Oil Mill Machinery Manufacturers & Supply Association—May 27th, 28th, 29th—Memphis, Tenn.

Inter-State Oil Mill Superintendents' Association—June 4th, 5th, 6th—Atlanta, Ga., City Auditorium.

Oil Mill Superintendents' Exhibitors' Association—June 4th, 5th, 6th—Atlanta, Ga., City Auditorium.

AN IMPORTANT BULLETIN.

The venerable tale of the man who stood all one day on a crowded street offering five dollar gold pieces for ten cents a piece but finding no takers has been and will be used to point the moral of many tales. The resurrection of this mildewed and probably untrue story is to call attention to the fact that valuable information in the way of technical publications and statistics are frequently overlooked because they are free or sold at a nominal cost.

There was published in February of this year by the United States Department of Agriculture, Bulletin No. 769 by Herbert S. Bailey, who is personally known and esteemed by many oil mill men, in collaboration with B. E. Reuter, who has done such efficient work in his place as Chief, Fats and Oils Division, U. S. Food Administration. This Bulletin is entitled "The Production and Conservation of Fats and Oils in the United States." The price is ten cents and we are quite sure that if some book agent were to offer the publication "bound in half morocco, etc," to oil mill men they would readily pay five dollars for it and would not be "sold" for the information is well worth that price.

In this bulletin attention is called to the fact that cottonseed oil in 1917 was only 61% of the vegetable oil produced in this country. This point should be noted by the Southern mills and serious consideration given to the manufacture of other vegetable oils in what heretofore have been exclusive cottonseed oil mills.

It is also noted that six times as much coconut oil was made in the United States in 1917 as in 1912; nearly twice as much corn oil and one hundred times as much peanut oil was produced. Num-

erous tables are included showing the production of various oils from 1912 to 1917, also the imports and exports, etc., during the same period.

The manufacture of cottonseed oil, which is, of course, familiar to our readers is described, as well as that of peanut oil, coconut oil, palm kernel oil, palm oil, etc.

On the subject of corn oil the bulletin gives the following information:

"Corn oil, which, so far as is known, is made only in this country and Canada, has within the last decade come into prominence as both a food and technical oil. No reliable figures are obtainable on the production of this oil previous to 1912, when nearly 73,000,000 pounds were made in 16 mills. Our export of corn oil has decreased steadily from 1912, when we shipped nearly 23,000,000 pounds, to 1917, when only a little over 4,700,000 pounds were exported. This decrease probably was due to competition with new oils in the foreign markets, and also, to some extent, at least, to an increased domestic demand for corn oil. It is only within the past few years that the refining processes have been so perfected that this oil could be used for general household purposes and for the manufacture of lard and butter substitutes.

Corn oil, or, as it is sometimes called, maize oil, is obtained from the small germ portion of our common Indian corn. Although the germ itself is about half oil, only from 3 to 6.5 per cent of the entire kernel is oil. Were it not for the fact that in the preparation of hominy feed, cornstarch, and brewers' grits, and sometimes in the making of corn meal and other corn products, the germ is more or less completely separated from the rest of the grain, corn oil doubtless would be a mere curiosity, as it would not pay to extract it.

On the basis of the 1917 output of corn oil, which was approximately 118,000,000 pounds, if we assume that the germs from a bushel of corn will yield 1 pound of oil, 118,000,000 bushels of corn were used in those plants that produce corn germs as a by-product. The hominy feed plants, which use the dry process, obtain from 2 to 2.5 pounds of germ per bushel of corn. As this germ is mixed with a good deal of meal, however, the oil yield is only about 0.4 pound per bushel of corn. The starch works, employing the wet process, obtain about 3.25 pounds of germ, containing 40 per cent of oil, from a bushel of corn, or 1.4 pounds of oil per bushel. Many of the distilleries, although they separate a low-grade oil germ, secure a larger yield of oil per bushel than the hominy works, as it is necessary for them to remove the germ almost completely from the rest of the corn.

Manufacture and Uses.

In degerminating corn, two distinctly different processes are now in use in the United States. In the older one, called the wet process, the corn is soaked in dilute sulphurous acid for some time and the germ then separated from the rest of the grain. This yields a germ which the oil is already rancid when extracted. In the newer process, usually known as the dry process, the germs are removed by mechanical means without the addition of water. If the corn is sound, this oil can be used for food purposes with little or no refining. The germs, after being separated, are cured until tough and leathery. They are then run through a series of flaking rolls which flatten them and break the oil cells but do not grind the material into a flour, which would be hard to hold in the oil presses. While hydraulic presses could be used, as in the cottonseed oil mills, the general practice in the United States is to run the germs directly from the flaking rolls into expellers similar to the method used in connection with the production of cottonseed oil.

Like cottonseed and hot-pressed peanut oil, corn oil is refined before being marketed for food purposes, but the crude oil can be used in making soap, paint, linoleum, and similar technical products.

In regard to Soy Bean oil on which subject The Oil Miller has been harping since a special soy bean edition was published in August, 1916, the following information is given:

"Soy bean oil to-day stands at the head of our list of imports of foreign fats and oils. During the twelve months ending December 30, 1912, we imported a little less than 25,000,000 pounds, valued at about \$1,000,000, but in the calendar year 1917 nearly 265,000,000 pounds, at a cost of about \$27,000,000, an increase of approximately 1,100 per cent in quantity and more than 3,700 per cent in value. Besides the crude oil imported in 1917, some 34,000,000 pounds of the dry beans were brought here from eastern Asia. The major portion was sold to oil mills, a small quantity being used for canning and other purposes. The domestic production of soy bean oil in 1917 is reported to the United States Food Administration as 42,000,000 pounds.

It is estimated that 750,000 acres of soy beans were planted in the United States in 1917, which is about three times the acreage of 1916. Only a small portion of the planting was allowed to seed, however, most of it being cut for hay. Very few, if any, of the domestic beans were crushed by the oil mills, which used as raw material the Manchur-

ian beans, as being cheaper and in less demand by bean canners than those grown in this country. In 1915, however, some 100,000 bushels of American soy beans were pressed, and the cake and oil from them were consumed in this country.

Growing Soy Beans.

Of the more than 500 known varieties of the soy bean which have been grown on the Government testing farms, at present only about 15 are handled commercially by seed men. The Mammoth (yellow), the standard late variety, is probably more extensively grown than any other. It is most important that the variety best suited to the locality where it is to be cultivated be selected. Also where the beans are to be used for oil those varieties which will yield the maximum amount of oil per acre should, of course, be planted, if they will mature a good crop.

The oil content of soy beans varies from 14 to as high as 21 per cent, in a few varieties, the average being about 17 per cent. Tests made by the Ohio Experiment Station with 25 varieties, planted for five successive years, but not on the same plot each year, gave yields of from 14 to 36.5 bushels per acre, the average being 30 bushels. Similar experiments in Connecticut with 13 different varieties produced from 15 to 32.5 bushels per acre. The yield of oil from an acre will average 250 pounds (about 35 gallons), or, based upon the dry shelled beans, 1 ton will produce from 28 to 30 gallons of oil and 1,600 pounds of meal. While, with the proper selection of varieties, soy beans may be grown in practically all parts of the United States, the yields in the Southwest have been rather light, and the greater portion of our crop is produced and pressed in the Carolinas.

Expressing the Oil and Its Use.

The cottonseed oil mills can handle soy beans with little or no change in their present equipment. As soy beans may be stored with less danger of deterioration than cotton seed, it is possible to press these after the regular cotton crushing season is over. Soy bean oil does not need to be refined for paint and other technical uses. Its flavor is distinctly beany, however, so before it can be used in food products it must be refined and deodorized like cottonseed oil. Even the cold-pressed oil is not edible as it comes from the presses, in which respect the peanut has an advantage over the soy bean.

Belonging to the group of drying oils, soy bean oil more closely resembles in its physical properties linseed and the other drying oils than peanut, cottonseed, and similar semidrying oils. It has, therefore, been used largely as a substitute for linseed oil in the making of paints, linoleums, and like products. As already mentioned, however, it is

perfectly wholesome, and in China and other parts of Asia forms the staple food oil of large classes of the people. When properly refined it becomes quite bland, and can be used in lard substitutes, oleomargarines, and even, perhaps, as a table oil.

Increasing our Output.

The soy bean and the peanut constitute the two most promising possibilities for a large increase in our fat resources. Both of these are fairly sure annual crops. The oil mills already established have a crushing capacity sufficient to handle almost any amount of the raw materials that the American farmers produce. Moreover, a good market for the oil is assured.

There is a double reason for increasing our crush of soy beans and peanuts. Not only will they furnish the United States with oils, but, what is perhaps still more important, they will greatly augment the protein supply. The soy bean press cake, that is, the residue after most of the oil has been expressed, need merely be ground to produce a most valuable flour. As these beans contain little starch, the flour they yield, from a nutritional point of view, is not a wheat substitute but a meat or milk substitute. While it is true that peanut and soy bean meals are first-class stock feeds, they are, if properly made, a valuable addition to the available food supply of the American home."

The Castor Oil proposition which was so much in evidence in certain parts of the Cotton States during the past two years is discussed as follows:

"To most of us the term castor oil at once brings to mind a nauseous medicine. Few are aware that it is at present almost an absolute necessity for our high-speed airplane motors. And where to get enough of this oil for the airplane squadrons we were equipping, to say nothing of ordinary domestic requirements, has been a serious problem. At one time the castor bean was an important crop in certain sections of Oklahoma, Kansas, Missouri, and Illinois. In recent years, however, we have been able to import from India all the beans we required more cheaply than we could raise them, and very few have been grown on a commercial scale by American growers, until 1918. The imports for the year ending June 30, 1916, amounting to 1,071,963 bushels, in the next fiscal year dropped to 766,857 bushels, in spite of the increase in price. Our normal requirements are about 1,000,000 bushels.

Early in 1917, foreseeing the approaching shortage in the domestic supply of castor oil, the Federal Government purchased all the available stocks on hand, and also placed an embargo on the exportation of any except the lowest grade of this oil, which could not be used for lubricating purposes. The Signal Corps made contracts with southern farmers, guaranteeing to buy at fixed prices all the

beans that could be grown on about 100,000 acres. The seeds for this planting were secured from India, by agreement with England which had placed an embargo on the Indian crop. It was also arranged that any excess of beans above the amount needed by the Army and Navy should be crushed to supply our technical industries requiring this oil.

Methods of Obtaining Castor Oil and Its Uses

So far as is known all but one of the few American mills which crush beans use the hydraulic process similar to that of the cottonseed oil mill. A large portion of the beans raised in 1918 will be pressed in expellers, which recent experiments have shown to be well suited for this work. Abroad large quantities of castor oil are extracted from the ground beans by the use of volatile solvents, but this oil is inferior to the expressed oil. Although it has been believed that only No. 1 cold-pressed oil is satisfactory for high-speed motors, some hope seems to exist that a second or even third grade can be refined to form a good lubricant. Besides its medicinal and lubricating uses, castor oil is used in making certain varieties of soap, in the preparation of sticky fly papers, imitation leathers, and for many other commercial purposes. The press cake from castor beans contains a poisonous principle, which makes it dangerous as a cattle feed, although it has value as a fertilizer."

We believe the extracts we have quoted will convince all our readers that they should secure this Bulletin No. 769 for we think every one in the industry would profit by a careful study of it.

SECOND GROWTH OF CASTOR BEANS IN FLORIDA EXCEEDS LAST YEARS' CROP.

While the effort to produce castor beans and from them castor oil on a profitable basis in Florida last year was reported to not have been successful, this season's growth of castor beans on the thousands of acres where they were planted last year is much thicker and the crop will undoubtedly be greatly increased.

Those who are familiar with this situation seem to be of the opinion that this increased crop points to the fact that the harvesting was not thorough last year and that the voluntary crop this year would indicate that large quantities were wasted last year and they are not at all convinced that the growth of castor beans on a commercial scale in this country is a failure, notwithstanding the complaints of the contractors.

OIL SUBSTITUTES DEVELOPED AS A RESULT OF THE WAR.

Necessity is the mother of invention and the stern necessity of war in its very early stages brought about radical changes in the oil industry particularly in the development of substitutes, many of which will continue permanently as factors in the oil market.

The countries which found themselves short of oils, particularly Germany and Denmark had to resort to means hitherto unthought of for producing oil and fat.

Some of these attempts at substitution, while not always giving satisfactory results are at least interesting, from the experimental standpoint. These foreign countries were not only hard pressed for oils and fats but for feeding stuffs produced from the same materials as oil. For instance, Denmark who had hitherto imported from Asia large quantities of oil and cake from the soya bean found herself without this source of supply. The farmers were, therefore, encouraged to cultivate other oil-producing seeds to take the place of this. Mustard seed appeared promising and about 28,000 acres of this were planted. From this a certain amount of cattle feed as well as oil is expected. The oil is adapted for both illumination and lubricating purposes. Whether the feedstuff obtained will make the crop a profitable one or not is yet to be determined.

They also experimented with sunflower seed which oil was found to be edible and capable of being used in making margarine, but the cultivation of sunflower on a large scale was not profitable. Tests are now being made with a view to using sunflower oil in making varnish for linoleum.

Flax cultivation throughout all of Denmark is being resumed for the sake of the oil in its seed. Poppy seed is also being grown as it produces an oil quite satisfactory for certain varnishes.

Aside from these, Denmark has collected great quantities of beechnut seeds from which they are extracting a palatable edible oil.

In Germany, where the need of oil and fats was greater than anywhere else, they seemingly having overlooked the importance of cultivating certain amount of fat producing vegetables, so necessary to make her self-sustaining, all sorts of means were employed in the endeavor to obtain fats and oils. Some of these results are of interest.

Early in 1918 Germany found her stocks of castor oil entirely exhausted but a satisfactory substitute was found by soaking 20 grammes quince juice in one litre of cold water for twenty four hours. A thick oil, resembling castor oil results which it is thought would be satisfactory for rotary engines.

Cooking oil was obtained from the fruits and seeds of fruit trees (besides fruit kernels, also walnuts, hazel-nuts, lime seeds, beech nuts, service tree, ash, raspberry, blackberry, hips, and haws, vines, red elder) from the seeds of conifers (pine oil), from the seeds of cultivated plants, particularly sunflowers, gourds, maize, cucumbers, melons, cress, and from the seeds of weeds, such as hedge mustard, field mustard, wild flax, etc. There was nothing which they overlooked, their need was too insistent.

From oats an oil which is serviceable for a lubricant was obtained. Oats contain 5 to 7 per cent of oil which is mostly contained in the sprout. The husks with 3.46 per cent of oil, must be kept separated from the flour with 7.17 per cent of oil. The extraction is not made with steam of benzine, as in the case of bones, but with fluid benzine. After this process the oil remains in the state of an emulsion containing starch; this is treated with sulphuric acid, which separates the oil from the starch, but turns the oil brown and sour. It is thought that this may still be overcome in which case the oil would not only be used as a lubricant but also as a salad oil.

Horse chestnuts were chopped into small pieces and dried, then extracted with benzine and boiled down with alcohol. In cooling the extract produces saponin while the residues can be made into starch flour which makes excellent feed for animals.

Tobacco has been found to contain 30 to 50 per cent oil and is recommended as a substitute for linseed oil in making soaps.

The extent to which the German people were driven in their need of fats is illustrated in this method of obtaining it. Insects were fed on offal or other waste products and after fattening, the insects were cut up and the fat extracted by chemical processes. Thus poisonous mushrooms, rotting meat, manure and other waste products were peopled with maggots and worms, grass or wet hay with mites, and the waste transformed into fat. The best insects for this purpose are said to be mites, blackbeetles, flies of all kinds, especially bluebottles, leaf lice, larvae of the corn beetle and the corn moth, spiders, caterpillars, etc.

Of course, the United States was not driven to such desperate measures, but all during the war extensive studies were made. It was found that cottonseed was not the only profitable producing oil vegetable. Indeed, it would seem as if by far the larger portion of the vegetable kingdom had hidden resources of oil. Of course, cocoanut, sesame and olive oil had long been recognized but the use of cottonseed generally for edible purposes led to experiments as to the possibilities of soya bean, peanut, rape, sunflower, corn, charlock, Japanese

mustard seed as well as to the nuts of fruit trees.

While both the soya bean and the peanut are not new products, it is within the last few years that their development has made them a permanent part of the oil industry. In truth, the soya bean has so well proved itself that its meal, oil and cake industry are already on a par with the cottonseed product industry. The soya bean oil is used in the manufacture of soap and paint and during the war has been found satisfactory as one of the component parts of compound lard and oilomargarine.

Peanut oil is being used largely for salad oil as well as in soap making, and the volume of peanuts grown has increased by leaps and bounds these last few years.

In Italy tomato seeds have been used as a source of oil for several years. The waste skins and seeds are dried and separated by winnowing machines. The seeds are crushed, and the residue, together with the skins, is sold as a cattle food, which in Milan fetches about £6 per ton. It is proposed to utilize the waste skins and seeds of the canning industry in the United States in this way. It is estimated that of these 3,390 tons are produced yearly, and this would yield 343 tons of oil, 1,200 tons of seed meal, and 1,800 tons of skins.

At our canning factories where catsup is made, tomato waste which constitutes about 12 per cent of the weight is becoming something of a problem.

It contains about 60 to 70 per cent of moisture, and about two-thirds of it is seed and one-third skins. A large part of the water could be got rid of by pressing, and the remainder by heat. The dried skins, being much lighter than the seeds, could be removed by winnowing, after which the seeds be crushed and pressed for the extraction of oil. In Italy the oil is sometimes extracted with solvents, e.g., carbon tetrachloride. The seed contains about 25 per cent of oil and 25 per cent of proteids. The press cake will contain 30 per cent of proteids and about 7 per cent of oil. The oil is dark red in color, somewhat viscous, and has a taste of tomatoes. The sp. gr. is .922, saponification value 185, and iodine value 110. It is a semi-drying oil. An authority states that he knows one factory from which 10,000 tons of tomato waste has annually to be removed, and in some states within a radius of 40 to 50 miles scores of tomato canning factories exist, from which the waste could be removed to a central extraction plant.

Among the new oils found are tea oil, similar to olive oil, and a satisfactory substitute for it; hempseed oil, used in soap making, but which can be utilized as a drier of paint, as it contains 16 per cent of drier; kapoc seed oil, similar to cottonseed oil and perilla oil, a paint oil long known but too high priced to compete with linseed oil.

During the war we all became familiar with the fruit pit barrel, and from these pits of peaches, plums and cherries a very satisfactory edible oil was obtained and this source will probably always be utilized by the packers of these fruits.

In the fish oil markets there have also been radical changes and today numerous kinds of fish oil regularly for sale as dogfish, halibut, Japanese salmon, sardine, shark, tuna fish and walrus oils, as well as whale and blackfish, porpoise and seal oils.

So that with this large and varied source of securing oils, no country should ever find itself again without an adequate means of supply. To be sure, some of these methods of supply are not economical of production, but in time of war when everything soars upward the cost is of less importance to the supply itself, and as time goes on and further experiments are made economical and profitable means of handling many of these oil products will be found. The possibilities of development are great.

PEANUT INDUSTRY STIMULATED BY GROWING RECOGNITION OF PEANUT OIL VALUE.

Under the above heading the Manufacturers Record inserts a special notice to them from Richmond, Va., as follows:

Richmond, Va., March 29—(Special.)—Development of the peanut industry on a still larger scale is promised in the Virginia region this spring, according to the announcement of leading growers. The primary cause for this increase is attributed to the fact that many of the farmers have recently become aware of the possibilities in peanut oil. Figures announced by leading chemists indicate that the peanut is rich in vegetable oils, being only exceeded by cottonseed and linseed oil. Virginia ranked third in production in 1917.

Although there has been dissension on the part of the growers as to prevailing market prices, legislation is expected by the coming Congress that will make peanut raising in America more profitable through protective measures which will prevent the wholesale importation of peanuts from Japan.

The oil industry in connection with peanut growing promises to add vast possibilities for the Virginia and North Carolina growers.

We are glad that Virginia is at last waking up to the value of peanut oil as a by-product to the peanut itself. The Cotton Growing States have known this for quite a few years and while not the original peanut growing states have profited by their knowledge as Virginia will too now that she recognizes the real worth of the oil in peanuts.

U. S. EXPORTS OF COTTON SEED OIL, BY COUNTRIES, JANUARY, 1919.

	Pounds	Dollars
France	792,705	231,756
Italy	1,293,000	244,385
Netherlands	5,299,200	1,140,921
Sweden	9,706,560	1,938,880
England	3,831,469	507,398
Bermuda	1,209	259
Canada	4,554,465	798,894
Guatemala	7,200	2,160
Honduras	2,020	526
Nicaragua	1,870	428
Panama	77,695	19,761
Salvador	3,750	1,000
Mexico	56,907	11,486
Newfoundland	106,400	23,675
Jamaica	60,000	14,543
Trinidad	6,270	1,638
Other Br. W. Indies.....	59,212	13,793
Cuba	493,405	108,710
Virgin Islands	5,190	966
Dutch West Indies	11,930	2,643
French West Indies	6,107	1,599
Haiti	21,224	5,279
Dominican Republic	50,287	12,501
Colombia	120	33
British Guiana	1,500	350
Dutch Guiana	16,640	3,734
French Guiana	91,150	20,919
Paraguay	100	30
China	90	40
French Oceania	374	85
Philippine Islands	1,070	241
Belgian Kongo	10,055	2,895
British East Africa	35	8

Total 26,573,309 5,111,536

SOUTH GEORGIA PLANTING PEANUTS.

Many of the farmers of Decatur county, realizing that they must aid in building up their market for peanuts by using their by-products have planted a good acreage of peanuts and have been using peanut meal in place of cottonseed meal wherever they could. Though for a time it seemed as though the crop of peanuts in this section would be cut, the earnest efforts of the oil mills to put the growth of peanuts before the farmer in the proper light is meeting with considerable encouragement and the outlook is bright for an increasing peanut crop in South Georgia.

SOY BEANS CRUSHED.

The Fitzgerald Cotton Oil Company, of Fitzgerald, Ga., made its first experiment recently with crushing soy beans. Several hundred bushels of these beans, grown on the farm of L. G. Whitley, were put through their mill, and, according to Superintendent W. T. Paulk, the experiment has turned out a very satisfactory oil, both in quality and quantity.

Soy beans have been grown in this section for several years in small plats, mostly for forage, but it is thought with the satisfactory results secured by the oil mill, large acreage may be planted another year for their commercial uses.

FORT WORTH LABORATORIES IN NEW QUARTERS .

The Fort Worth Laboratories, Fort Worth, Texas, have taken new and larger quarters at 828½ Monroe street. They will have 5000 square feet of floor space fully equipped. The demand for consultation and work on problems involving chemistry has necessitated this change so that they might have adequate office space and system as well as laboratory space for conducting this work.

The additional space permits of arrangement of laboratory apparatus so that samples will be analyzed with a maximum amount of accuracy in a minimum amount of time. A well trained staff is always on hand to take care of the laboratory work.

Mr. Joseph Davidson, Chief Engineer, American Machine & Mfg. Co., Greenville, S. C., has returned to Greenville, after an absence of eighteen months in the Phillipine Islands, Java, Japan, China and Manchuria, investigating the processes as used in the Orient for crushing peanuts, copra, Soya Beans and other oil bearing seed.

This progressive company has for years made a specialty of designing and equipping complete mills for crushing cotton seed and peanuts, and manufacture a full line of machinery for this service. With the data collected by Mr. Davidson they are now in position to furnish complete mills especially adapted for handling Copra, Soya Beans, Sunflower seed, etc., as well as standard mills for handling cotton seed and peanuts.

The Union Seed & Fertilizer Co. of Mobile has completed the installation of peanut-oil crushing machinery in its plant and is now engaged in the manufacture of peanut oil and meal. The company is drawing its supply of peanuts from South Alabama and Georgia.

PEANUT PRODUCTION IN TIENTSIN CONSULAR DISTRICT.

Consul General P. S. Heintzelman of Tientsin, China reports that large quantities of peanuts are grown in Chihli Province. The localities producing them in commercial quantities, together with the estimated annual production in tons, are as follows: Lanhsien, 5,000; Changli, 500; Changping, 1,000, and Loolung, Chien An, and Wanping, 2,500 each. These figures represent only general estimates made in the absence of accurate statistics and do not include areas of small production. In the Shansi Province the tonnage of peanuts is so small as to be negligible.

The 1918 crop was a maximum one, climatic conditions having been very favorable. Local consumption, however, is enormous. The small quantities normally exported from Tientsin are shown in the Chinese maritime customs statistics to have totaled 7,000 tons of shelled and 1,620 tons of unshelled peanuts in 1917. For the first 10 months of 1918 only 1,708 tons of shelled peanuts were exported, as contrasted with 6,707 tons for the same period of 1917, while the comparative statistics for exports of shelled peanuts are 822 and 1,413 tons for the first 10 months of 1918 and of 1917, respectively. Restrictions imposed by the United States Government, lack of tonnage, and high rates of exchange all contributed toward this decline.

During 1918 exports of peanuts to the United States practically ceased, the total being only 71.5 tons, value at \$20,647; while 2,302 tons were shipped to America in the previous year, and the estimated value was \$325,778.

NEW S. K. F. REPRESENTATIVE IN ATLANTA.

Mr. W. H. Holby of Hartford, Conn., who has been connected with the Hartford offices of the S. K. F. Ball Bearing Company has come to Atlanta to assume charge of their Southern business, and is located temporarily at the Ansley Hotel.

Mr. Holby, who is one of the S. K. F. Company's mechanical engineers brings to this part of the country a wide experience in the ball bearing line and the Southern trade will be glad to have a man of his ability to look after their ball bearing interests.

Fire destroyed the big cotton mill, known as the Arcola Oil Mill, Arcola, Miss., with loss estimated at \$250,000. The mill, the cottonseed houses and great stocks of seed and linters were destroyed, the linters having been purchased by the government. Fire is said to have started from the hull room, probably from a hot box of the machinery. Most of the loss is said to be covered by insurance.

DRY SEED IS SAFE SEED

You can take any green seed as soon as it is ginned, dry it in a Hess Drier to any required moisture content, cool it in the same operation, and put it in storage. It will keep safely without heating or germination until you are ready to mill it, and you will then get **more oil**, a **better quality** of oil, and there will be no loss from deterioration. Hundreds of thousands of dollars are wasted and lost every year, because of green or damp seed.

Hess Driers Will Save Every Pound, at a Cost Very Much Less Than Any So-Called Preserving Process

We make driers ranging in capacity from 10 tons per day upward, fully guaranteed as to efficiency. Owners of Hess driers have an advantage, not possessed by any other mill, in their ability to buy damp seed at their own price, and to save it without loss.

Tell us your daily requirements, and let us advise you what an installation will cost.

HESS WARMING & VENTILATING CO.
904 Tacoma Building **Chicago, Illinois**

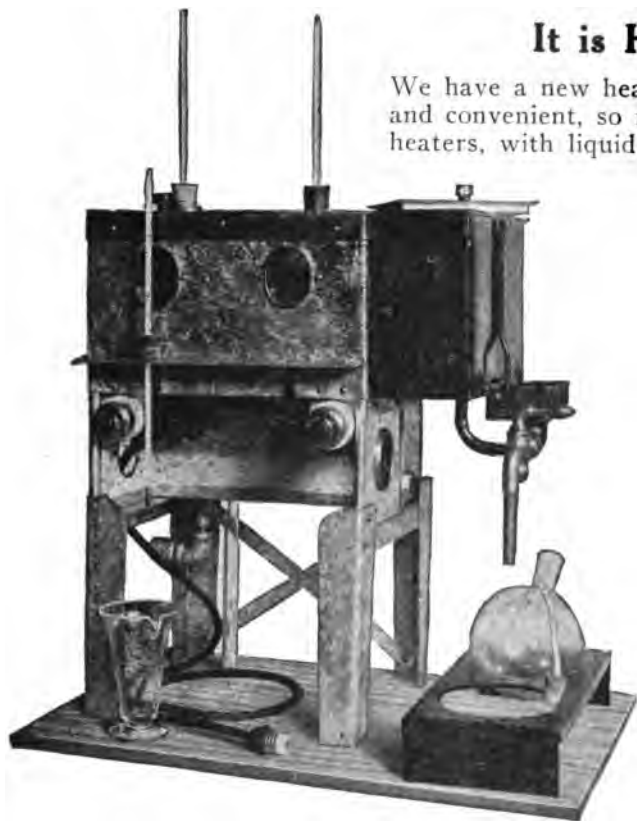
The Official BROWN-DUVEL Moisture Tester

With Glass Flasks or Copper---for Cotton Seed or Grain.

This is the standard tester prescribed in Bulletin 72, Department of Agriculture, and in the Federal Grain Rules of Inspection. In every detail it conforms to the specifications, and is of the type used in all Government grain inspection offices.

It is HEATED ELECTRICALLY

We have a new heating element, our own design, which is so simple and convenient, so free from fire hazard that it will supersede all other heaters, with liquid fuel, for testing purposes.



Its Points of Merit are:

1. **SIMPLICITY.** When a coil burns out, as all coils will, pull off the connector body; lift out the heating plate, which is then free.

Turn two screws and the burnt coil will drop out. A new one is inserted, the screws turned up, and the job is done. The element is not even taken apart for the purpose, and the expense involved is just **TEN CENTS**. No delay, no inconvenience.

2. **EASY REGULATION.** The heat is regulated just like a lamp; the turning of a thumb-nut raises or lowers the temperature just as you want it.

3. **LOW COST.** A new heater costs \$1.00; a new coil 10 cents.

4. **ADAPTED TO ANY VOLTAGE** and quickly changed from one voltage to another, such as lighting (110V) or power (220V) current, by the change of a screw.

5. **SAFER AND MORE CONVENIENT** than alcohol or gasoline, and cheaper.

The tester is made throughout of smooth steel, galvanized to prevent rust. The glassware is of the best quality obtainable and accurately calibrated. Heat and oil resisting stoppers are supplied. The thermometers are guaranteed correct.

Each tester is equipped with a strainer oil-tank, with **SELF-MEASURING FAUCET**, delivering 150 CC of oil at each discharge, which has no valves nor adjustments to get out of order and leak.

No electric tester was ever so good nor sold so low. Our prices, which include all accessories and one gallon of testing oil, are as follows, f. o. b. Chicago:

One flask	\$25.00	A liberal discount for quantity orders or for resale.
Two flasks	40.00	
Four flasks	65.00	
Six flasks	90.00	

We supply gas or alcohol burners if electric current is not available.

We will equip your old tester with these new electric heaters for \$3.00 per burner, including wiring, you to pay transportation charges both ways. In sending testers to be changed over, do not send any glassware, accessories, nor water tank; just the heater body.

We carry a **COMPLETE LINE OF ACCESSORIES** for testers at lowest possible prices.

We still supply the Hess Improved Tester, with copper flasks, for gasoline, gas, alcohol or electricity.

Ask for Full Information.

HESS WARMING & VENTILATING CO.

904 Tacoma Building

Chicago, Illinois

SATISFIED LABOR IN THE OIL MILL.

Mr. R. P. Blackwell, of Rowland, N. C., read an interesting paper upon Labor in the Oil Mill last year at the Inter-State Oil Mill Superintendents' Association convention. While some of the questions which were problems then during the war have been solved by the armistice, there were many points that apply at any time to any mill and Mr. Blackwell's views are distinctly worthy of consideration. The article has been revised to bring it up to date.

When called upon for his views, Mr. Blackwell said he did not know just why he was drafted to handle this big subject, but that he supposed it was because he was of the proper age, the right height, and the fact that he did not suffer from flat feet as he thought those were the only qualifications he possessed. It is the opinion of the editor as well as of those who know Mr. Blackwell that he is more than modest in stating his qualifications. The following true story opened Mr. Blackwell's address.

"The other day as I came into dinner from the mill, I heard my name called and naturally stopped to hear what it was about. My wife was talking to her father over the 'phone, and this is what I heard: "Say, dad, did you know Rob was going to make a speech in Atlanta next week? Yes, he is. Yes, he is going to tell them all about the labor question. Every night he reads it to me. Oh, yes, he is awful proud of it. Thinks he knows all about it. It sounds awful big and fine, but, say, dad, between you and me, it's all bosh! Why, they had a negro funeral in town yesterday and Bob had only one man at work, and he didn't stay all day."

You can draw your own conclusions, but in more serious vein I wish to say that to my mind the most important question before us today is the labor question.

Andrew Carnegie was once asked which is the most important, Brains, Labor or Capital. He immediately replied, "Which is the most important leg of a three legged stool?" This was a mighty good answer, but I wonder if Mr. Carnegie ever saw one of these one-legged milking stools. If he had. I am sure that he would agree that this one leg represented labor.

There are a great many phases of this subject to be considered, but fortunately we will not be bothered this year by the one "Where is the labor to come from?" This year we have our boys back looking for work, but the great question now is how to keep them and keep them loyal and contented.

At Rowland last season we started off with one of the best organizations that we had ever had. Every man experienced, strong and willing, most of them great big husky fellows. Before the sea-

son was over, however, we had lost practically all of this crew and in February I found myself with a seed house full of seed and only one shift running. I say running, but it was hardly more than crawling.

This was the time I began to think seriously of the labor question, and to wish I had thought more about it sooner. I feel that every one of those men except ones in the first draft class could have been held if he had been handled right. And right here I believe there is room for a lot of improvement. I know there is in my case. I believe that there is a right way to appeal to and hold every man on your crew.

Of course, the same way will not work on every man. They are all different. Study your men. Know each one individually. Be his friend, and he will be your friend. Think how much easier it is with a good efficient, smooth running crew. Think how much lighter your own work and responsibility is. Don't discharge or let any man quit that possibly can be kept. There is some good in him somewhere, and a place for him. Find it and use him.

Another thing that I want to lay stress on in connection with the labor situation is efficiency. Did you ever stop to think how much your personal efficiency affects your laborers? Not by example alone, though that is very important, but in the operation of the machines for which you are responsible.

You know that if your meal is wet the cakes are much harder to strip. If it is too dry, it is hard to get out of the presses. And a few tight press boxes can double the work of the charger. Just lots of things like this can and do happen around the mill that unnecessarily increase the burden of labor. The operatives soon learn this, and if the proper interest is not shown by the superintendent they are dissatisfied, and justly so. Keep your machines in good order and correct adjustment, and you will have a much better working crew, and, it is needless to add, a much better working mill.

Still another important item and one that must not be overlooked at this time is labor-saving machinery. I don't care how good a mill you have, you can save some labor somewhere by using some of that machinery. Pick out the machines you think will save the most. You know your own conditions better than I do, but pick out something that will save some men. Go to your manager or board of directors and insist on having it.

There is another phase of this subject that I want to talk to you about. It strikes me that after we have gotten men to run the mill, after we have made friends with them, treated them right, kept things in good working order, and installed la-

but saving machinery, we still owe them something. The big industries all realize this and strive to give their employees every convenience and comfort possible. Many people were skeptical some years ago when Henry Ford, the Jitney King, gave his floor sweepers five dollars per day, but today we all have to admit that he makes more autos and makes more money out of them than anybody else in the world.

The large oil mills in the cities are probably well equipped with dressing rooms, lockers, shower baths, toilets, etc. I don't know, but I do know that we small fellows in the country are sadly lacking in this respect. We seldom have a dressing room or locker, and the bath is round behind the boilers, or in some other dark dirty out-of-the-way place. Have you ever seen a negro down in the boiler room washing in an old bucket and drying on a twenty-five cent meal bag? Rather an expensive arrangement for the mill! Think about this, and see if you cannot fix him up a shower bath. It won't cost much, and he will appreciate it all the more because nobody around the mill ever took that much interest in him before.

When I first started oil milling we all worked on Sunday on repair work, and I am told that the early mills crushed on Sunday, too. I have heard several mighty good superintendents at our conventions speak against this practice as unprofitable and unnecessary. I think most mills have discontinued it except in case of emergencies.

Now, I want to go a step further in this direction. I think a working period from seven in the morning till seven at night twelve hours a day, six days a week shut up in an oil mill is too much. Other labor is contending for an eight-hour day and getting it in most industries. Practically all have a noon hour except ours. I don't know just how we are going to manage this, but I will tell you what we could do, and that is, shut down at noon Saturday and have a half holiday once a week. I am satisfied that this would pay. Many a man quits oil milling and goes at something else because he has no time to plant a garden or attend to a little outside business.

Cleanliness in the oil mill industry is such a large subject that I will not undertake to discuss it now. You all realize its importance, but do you realize that clean, light, cheerful surroundings have a very material affect for good on the workmen, and that they are much better satisfied under such circumstances?

Last but by no means least, I come to safety. The larger industries are doing a great deal of work in this direction and you should also do your bit. You can get warning signs very cheap. You can frequently caution your men about carelessness around shafting, belts, etc., and above all, you

should ever be on your guard against accidents or wrecks that might injure. Make frequent inspections of all things likely to cause trouble and remember, that the man who is killed or maimed works no more.

We have spent millions in men and money, pouring out the life blood of our sons and brothers in France to make the world safe for democracy.

Democracy is just another name for the laboring classes.

Can't we spend a little money to make our mills comfortable, clean and safe for our workers?

CATALOGUES OF CASTOR-OIL MACHINERY DESIRED.

Consul Henry T. Wilcox reports from Guadeloupe, French West Indies, that there is a demand in the colony for machinery suitable for extracting the oil from castor beans.

The plant of the North Mississippi Cotton Oil Company at Holly Springs, Miss., has been damaged by fire to the extent of \$150,000.

It is reported that a cottonseed oil mill and fertilizer factory will be erected at Rock Mount, N. C., by W. R. Griffin at a cost of \$50,000.

Fire of undetermined origin caused damage to the extent of \$45,000 to the plant of the Southern Cotton Oil Company at Gretna, La. Part of burned building was constructed only a few months ago.

The Fayetteville Oil Mill, Fayetteville, Ga., suffered a severe fire late in March, when its warehouse, with its contents of cottonseed and linters was entirely destroyed, the loss being estimated at \$100,000. The oil mill itself was saved but considerable property damage was done in the town.

HYDRAULIC SEED OIL PRESSES.

Catalog No. 54 of The Hydraulic Press Mfg. Co., Mount Gilead, Ohio, illustrates and describes their curb, box, plate and ring types of hydraulic presses which are so generally used for extracting oil from various kinds of oleaginous seeds and nuts, such as copra, castor beans, linseed, hempseed, rapeseed, peanuts, cottonseed, soya beans, germs, etc. Necessary hydraulic power equipment for operating hydraulic presses is listed therein. Anyone interested in such Presses should be sure to send for this catalog.

TEXAS AND THE SOUTHWEST

Donald Lowrie, Dallas, Tex., Special Correspondent for Oil Miller.

FALLS COUNTY (TEXAS) FARMERS BUY PURE COTTON SEED.

The Commercial Club of Marlin, Falls County, Texas, has ordered sixty-six bushels of cotton seed for planting, the purchase being made from the Texas Bankers' Association at Dallas. This seed will be used for demonstrating purposes. County Agent Harvey B. Ross, of Marlin, has selected a demonstrator representing each of the seventeen county food and feed associations. It has also been arranged for an expert to come to Falls County from the State A. and M. College, to instruct the growers in soil preparation, selection of blooms, bolls, etc., with a view of placing pure seed generally throughout the county.

According to the plan, when the cotton from this seed is ginned fifty per cent of the seed will be returned to the club at commercial prices, and this seed will be distributed each year to other demonstrators, the demonstrator each time selling his seed, after he has planted his fields, to neighbors at reasonable prices. By this process it is hoped that Falls County will in a few years be planted in only pure seed of a long staple variety. This work is to stimulate the interest in the Bureau of Markets and increase the prices paid for staple.

EUROPE TO RECEIVE TEXAS COTTONSEED OIL.

According to a statement issued by Adams Colhoun, Secretary of the Texas Cottonseed Crushers' Association, Texas is to supply 100 tanks, or 6,000,000 pounds of cottonseed oil to refineries who are preparing a shipment of 19,000 tons of lard substitutes to Europe. This information was contained in a letter issued April 3rd. Mr. Colhoun stated that this crude oil will be drawn from mills needing relief most.

The large shipment of lard substitutes to Europe will be the direct result of Food Administrator Herbert Hoover's visit there. Regarding the amount of crude oil to be supplied from Texas, Mr. Colhoun said that it is his belief that this shipment, and other uses to which crude oil will be put, will insure the disposition of all Texas cottonseed oil at the established price.

PURE COTTONSEED BEING DISTRIBUTED.

Thirty sacks of an improved strain of cottonseed grown at the State Experiment Farm west of Temple, Texas, have been distributed among the members of the Bell County Good Staple Cotton Growers'

Association upon their promise to isolate it from the rest of their cotton and cultivate it under special directions and conditions. The brand is an improved variety which has been carefully developed at the experiment farm, and it is recommended as being especially adapted to the Bell County soil. Its use throughout the county will be watched with interest.

A similar distribution of specially prepared cottonseed has also been made in Williamson County, Texas, through County Agent O. W. Sherrill, backed by bankers and gin men. During the last week in March 26, 60 bushels of Government certified Lone Star cottonseed was distributed to the members of the Boys' Cotton Club and members of the Farmers' Cotton Improvement Association. The Boys' Cotton Club members are to be taught by experts from the extension department of the Texas Agricultural and Mechanical College how to rogue their crops and keep their seed pure and of high grade, so that they may produce choice certified pure seed for the next season's planting.

TEXAS COTTON GINNERS TO HOLD CONVENTION AT DALLAS, MAY 15-16.

The 1919 convention of the Texas Cotton Ginners Association will be held at Dallas, May 15-16. This convention meets annually at Dallas and brings to the city about 2,000 ginnners, and persons associated in the cotton industry, including many cottonseed oil men. The dates for the Texas Cotton Seed Crushers' Association have not yet been fixed. This convention is also held annually, usually in late May or early June.

EXPERT URGES INCREASE OF PEANUT ACREAGE.

Victor H. Schoffelmayer, known throughout Texas as an agricultural expert, advises the farmers of the Southwest to raise the largest peanut crop this year that they have ever known.

"The world is short of fats," he states, "and all kinds of oil are in high demand. Every cotton oil mill can be equipped with a little adjustment into a peanut oil mill."

That the raising of peanuts is increasing in Texas is indicated by the fact that in 1909 the area planted was only 64,000 acres, and in 1916 this had increased by 275,000 acres. In 1918, however, 647,000 acres of Texas land was planted to peanuts, and the indications are that this acreage will be materially increased for 1919.

TEXAS AND THE SOUTHWEST (Continued)

In the past a large part of the peanut crop has been consumed by hogs, or stock, but with the development of the peanut oil industry a new incentive of great value is presented to farmers. The Spanish peanut makes one of the most important oils of commerce. It is taking the place of cottonseed oil in many industries, and on the table in place of olive oil.

"There is no telling into how many manufactured products peanut oil enters successfully," continued Mr. Schoffelmayer. "The fact is that peanuts are a profitable source of commercial oil, and that their utilization for such purposes is steadily increasing. The increase of acreage in the Southwest will depend upon the continuance of the present embargo on Asiatic peanuts and peanut oil, which, as a war measure, proved of highest value to Southern peanut growers. It is to be hoped that a good market for peanuts will be assured Texas and Oklahoma farmers based upon the proper regulation of imports."

PEANUT OIL HERE TO STAY.

Experts are agreed that the Spanish peanut oil industry has come to stay. S. A. Hackworth, a peanut authority of Dickinson, Texas, says of the Spanish peanut:

"Peanuts can be made into meal from the nuts, after the hulls have been removed. Mixed with flour, this meal makes a delicious and nutritious bread. Meal cake, made from ground hulls and nuts, is an excellent stock feed. The Spanish peanut is smaller than the Georgia or Virginia nut, and clings tenaciously to the vine when it is pulled or plowed up. It has to be thrashed from the vine by special peanut pickers or thrashers. This makes it far more profitable to raise than the common Georgia nut, which is apt to leave its nuts in the ground after plowing, and they have to be dug out with the hands or with special tools. This is slow and tiresome. Most of the peanuts sold in small packages to eat are Georgia peanuts. They have established an industry for which they are especially fitted by nature. The Spanish peanut, however, is the commercial oil peanut and leads all others in per cent of oil content and flavor.

"The best Texas sandy soils, underlain with a clay subsoil, will yield thirty-five to forty bushels of Spanish peanuts an acre. The best black alluvial lands, sandy loam, will yield fifty bushels or more an acre under good cultural methods. A bushel of Spanish peanuts should weigh thirty pounds. Forty pounds of nuts make one gallon of peanut oil, now selling for \$2 a gallon, and also three pounds of peanut butter, selling for thirty cents a pound. Peanut hulls, not ground up with the nuts, sell for more than cottonseed cake. The meal, ground from

the pressed nuts and hulls, sells for more than cotton oil cake."

CO-OPERATIVE MARKETING URGED.

An effort is being made to induce the peanut growers of Texas, especially of eastern Texas, to stabilize peanut prices by raising a uniform variety, and by planting a sufficient acreage in one community to warrant co-operative marketing. Where the acreage is large enough peanut factories have been established—Oklahoma and parts of Texas have such factories in the peanut districts, and the peanut oil industry and the utilization of the by-products is increasing every year.

So far the peanut seems to have no insect enemies. The vines grow into splendid hay, which is easily cured. Peanut hay, cured nuts and vines together, is the most nutritious hay for dairy cows known, and increases the milk flow amazingly.

BOLLWORM COMMISSION INSPECTS INFESTED AREA.

Professor Ernest E. Scholl, chief entomologist of the Texas State Department of Agriculture, has just returned from the "Big Bend" district of West Texas, and the Pecos Valley, following an inspection of the State and Federal work being carried on to destroy an outbreak of the pink bollworm of cotton. Accompanying Professor Scholl was W. D. Hunter, representing the Federal Government; H. H. Jobbson, representing the Governor of Texas; Professor F. B. Paddock, representing the Texas Agricultural and Mechanical College; P. D. Anderson, representing Ward County, and Dr. Jim Kamp, representing Reeves County. Commissioner of Agriculture Fred W. Davis and Senator George Dayton were also in the party.

Hearings were held in Marfa, Presidio, Pecos and Reeves Counties, and cotton fields were inspected at Candelaria, Ruidoza, Pulvo, Barstow and other points. The inspection revealed that the infested areas have been cleaned, and the cotton stalks and rubbish destroyed by burning. The committee is of the opinion that the cotton industry of the state has been safeguarded.

GENERAL NOTES.

The Industrial Transportation Company, L. H. Edwards, President, Houston, Texas, plans the erection of a cottonseed oil refinery at Waco. F. J. Walker, of Dallas, will be the architect. The plans are not yet completed.

A fertilizer and cotton oil plant will be erected at Texarkana, Ark., by T. L. L. Temple.

COMPARATIVE REPORT, LAW & CO.

Atlanta, Georgia, April 1, 1919.

The Oil Miller,

Atlanta, Ga.

Gentlemen:

The mills in general are to be congratulated on adapting themselves so quickly to the conditions brought about by the radical changes in linting methods. While separation is not as good as it should be, press work is well up to the standard of other seasons. It is unfortunate that the loss from excess protein in meal cannot be controlled. The average of 7.46% is the same as last month and when sold on 7% ammonia guarantee this represents a value of \$2.34 per ton of meal above the market price.

March comparisons in press room work and separation for eight years are as follows:

	Mols.	Oil	Ammon.	Standard	Seed	Oil	Standard
1912	7.26%	7.54%	7.79%	0.97	0.36%	0.77%	2.24
1913	8.21	7.45	7.51	0.99	0.21	0.66	1.87
1914	8.03	7.22	7.42	0.97	0.28	0.70	2.08
1915	8.11	7.35	7.51	0.95	0.19	0.65	1.84
1916	8.41	6.19	7.04	0.88	0.25	0.46	1.36
1917	8.70	6.31	6.70	0.94	0.40	0.58	1.76
1918	8.27	6.41	7.06	0.91	0.19	0.66	1.87
1919	7.98	6.66	7.46	0.89	0.36	0.63	1.87
Best	8.41	4.96	6.93	0.71	0.15	0.26	0.77
Peanut	7.96	7.19	7.64	0.94	0.00	0.42	1.12
Best	7.81	6.92	8.86	0.78	0.00	0.38	1.01

Seed.

While the quality of seed is considerably better than 1918 the expected yield of oil is 1½ gallons less than the seven year average for March and over 2 gallons less than the six year season average. It is true that the production of meal is slightly higher if a 7% ammonia product could be produced. On a 7.46% basis the yield of meal is also lower. March comparisons are as follows:

	Dam.	Kernels	Moist	Oil	Ammon	Best	Work	Avg.	Meal
Mch., 1919	21.0%	53.40%	8.76%	19.25%	3.56%	42.2	40.7	966	
Mch 7 Yr	16.0	53.70	9.17	19.85	3.46	43.8	42.3	940	

Crude Oil.

At this time quite a large amount of oil is still in storage at the mills. There is decided danger of rapid deterioration from now on unless the oil is well settled and as free as possible from organic matter. Our recommendation to the mills who can ship only a part of their supply is to hold the old oil, if it was made from sound seed, and ship that produced last. Oil made from good seed before January 1st will keep better than that produced since. It is a wise precaution to have the storage tanks analyzed and determine positively which is the

better product, as the condition under which the oil has been stored affects its quality to a very marked degree. In drawing samples from storage tanks it is well to bear in mind the fact that oil remains in stratas and does not mix like other liquids. It is easily possible to have several different grades of oil in the same storage tank, so in drawing sample care should be taken that it represents all parts of the tank as equally as possible.

Respectfully yours,

LAW & COMPANY, INC.

By THOS. C. LAW.

EFFICIENCY BULLETIN.

The season will be a long drawn out affair due to inability of mills to move crude oil promptly. Also some of the mills in the drought stricken areas are operating on Arizona and Imperial Valley cottonseed. The seed from these sections contain more oil than average Texas or Oklahoma seed.

There is a tendency on the part of the mills to pay less attention to efficient milling at the end of the season than during the height of the season. In this connection, only a word is necessary, oil is still worth 17½¢ per pounds.

The meeting in Dallas a few weeks ago brought out the fact that if the mills expected the Food Administration to back up the stabilized oil price, the mills must maintain the price of seed. In order to protect themselves on account of the poor quality of late seed, the mills must have analyses made of the seed.

Cake Analyses.

	No. Samples.	Moist.	Ammon.	Protein.	Oil.	Standard
Avg. All Mills	274	8.00	8.26	42.45	6.36	.77
Best Avg. Result		8.54	8.19	42.10	5.00	.62
Worst Avg. Result		8.60	8.28	42.55	8.75	1.10
Avg. This Month						
Last Year	635	8.23	8.28	41.55	6.55	.79
Annual Average						
Last Year	6273	7.60	8.07	41.48	6.52	.80

Hull Analyses.

	Number Samples	Whole Seed and Meats	Oil in Clean Hulls	Total Oil	Ten of Stand-Seed	ard
Avg. All Mills	72	.20	.53	.58	.06	1.55
Best Avg. Result		.0	.33	.39	.0	1.04
Worst Av. Res.		.89	.70	.80	.16	.43
Avg. This Month						
Last Year	254	.0	.80	.85	.38	2.36
Annual Average						
Last Year	2421	.09	.94	1.07	.45	2.63

Seed Analyses.

	No. Samp.	Moist.	Ammon.	% Oil	Yield 100 Lbs. Waste	Lbs. Cake
					Oil	8% Ammon.
Av. All Samp.	17	8.22	4.11	16.93	35.3	975
Best Samp. Av.		6.20	4.25	19.43	41.7	1066
Low. Samp. Av.		6.88	3.50	13.75	27.3	831
Avg. same Mo.						
Last Year	19	7.59	3.96	48.5	16.44	34.1
Annual Avg.						
Last Year	555	8.05	4.25	53.3	18.18	38.5

Oil Analysis.

	Number Samples	Refining Loss	Color Red	Free Acid
Avg. of All Samples	49	11.7	8.1	2.8
Best Sample Avg.		4.3	5.3	1.2
Lowest Sample Avg.		21.6	14.8	7.7
Average same Month Last Yr. 82		8.9	6.2	1.9
Annual Avg. Last Year.....	408	7.6	7.6	1.8

Yours truly,

THE FORT WORTH LABORATORIES,

By R. H. Fash, V. P.

RECENT TEXAS BOLL WORM INFESTATIONS TRACED TO COTTONSEED.

The United States Department of Agriculture, after investigating the appearance of the pink boll worm at Barstow, and in the Great Bend country, reports that the pest was introduced from Mexico, in a shipment of cotton seed, and that the Barstow incident was due to cotton being sent from Great Bend to an oil mill at Barstow. The work of eradication has been started under the same system that was used to eliminate the pest from the Beaumont, Texas, region in 1907.

VIRGIN PEANUT OIL WINS FAVOR.

Cold Pressed Product with Delicious Flavor Made in America.

Cold-pressed virgin peanut oil with a delicious flavor is being made in increasingly large quantities in this country, say the oil specialists of the Bureau of Chemistry, United States Department of Agriculture, who have made a study of the production and conservation of American edible oils. This product has a characteristic flavor pronounced by many consumers here and abroad to be far more delicious than the oils which are hot pressed and subjected to the necessary refining process leaving them practically tasteless. Furthermore, many consumers consider that virgin peanut oil compares favorably with virgin olive oil.

Until recently very little virgin peanut oil was made in this country. The American practice has been to cook the peanuts and then subject them while hot to a very high pressure. The oil secured in this way must be submitted to a refining process before it is suitable for the table. Cold-pressed peanut oil when made from sound sweet nuts need not be refined.

By the cold-pressed process a larger proportion of the oil of the peanut can be secured for edible purposes than by the hot-pressing method. The hot-pressed oils make a satisfactory oil for both table and cooking purposes by refining, but in the refining process a part of the oil is converted into soap stock, thus going to the soap kettle instead of to the table.

Considerable waste has resulted in the past, because some American mills were pressing part of the shells with the peanut kernels. These shells contain less than one-half per cent of oil, but they readily absorb the oil from the kernels when pressed with them, and come out from the press with from 5 to 7 per cent of oil. As the average pressed cake contains 6 per cent of oil, the shells in the cake from a ton of nuts will absorb 27½ pounds of oil in addition to 21½ pounds they originally contain.

A further economic loss comes when peanuts are pressed with the shells left on, for pressed cake containing shells cannot be used for human food. But when blanched kernels from which the shells have been removed are employed in making oil, the cake, which may contain 7 per cent of oil, can be ground into meal and used with wheat, corn, and similar starchy flours to form very palatable and highly nutritious cakes, gems, and hot breads.

Factories now in operation are producing by the cold-pressing process virgin peanut oil of high quality and excellent flavor.

OIL MILLING MACHINERY WANTED IN TSINGTAU, CHINA.

Tsingtau, China, is a very large exporter of peanut and soy-bean oil, which are the products for the most part of crude native Chinese appliances. Two Japanese firms are conducting extensive experiments in oil pressing and extracting processes and it is probable that the present crude methods will be superseded by more efficient practices. This will be made necessary, in a way, by the higher oil specifications that are being introduced. Tsingtau is, moreover, developing as an industrial center and all of these considerations would point to a good market for oil milling and refining machinery.

In the last two years over 17 factories of different kinds, including oil mills, have been erected, and special inducements offered by the authorities will probably result in many more. Raw materials for use in factories in the Leased Territory of Kiaochau are given freight reductions on the Shantung Railway. Land rental for factories is very low, and manufactured products can be exported on payment of export duty for the raw materials.

Catalogues sent here should be in English in preference to other European languages. Japanese is extensively used, but most of the leading Japanese merchants know enough English to read catalogues. —Oil, Paint and Drug Reporter.

PRIMITIVE METHODS OF PRODUCING OIL STILL EMPLOYED IN PALESTINE.

The present method of manufacturing olive and sesame oil in the Palestine consists of a circular stone trough in which a stone disk rotates on edge like a wheel and is operated by a horse, mule, or camel. One man is constantly stirring, removing, and replacing the olives as they are crushed and another carrying the whole olives to the mill and returning with the crushed ones. A crude wooden box press is used to extract the oil. The primitive devices, while they still exist, are rapidly falling into disuse as they are too laborious and do not produce as much oil as modern presses. Modern French presses are operated where no power exists. By a long beam pulled by rope and tackle, while some are operated by kerosene engines. With these presses one squeezing is sufficient instead of two or three under the native methods. These modern mills produce a better table oil which is sold locally at an advanced price. Instead of allowing the olives to stand for some weeks while the entire crop is collected, the modern method, utilizing little labor, permits the olives to be crushed soon after being picked. About \$20,000 worth of olive and sesame oil was exported in 1914, \$3,200 coming to the United States. Under the native process the oil obtained from the last pressings is used in soap making, and \$690,000 worth of soap was exported in 1914. This was, next to oranges, of which \$730,000 were exported the largest item of export. Wines and spirits, sesame seed, almonds, fruits, and other products constitute the remaining exports.

There is a broadening opportunity for American machinery and manufacturers in the Palestine. The sentimental effect of American aid in time of threatened famine is no less marked than in the case of Belgium and, with Turkey, Germany, and Austria unable to supply the main items of import as formerly, Palestine naturally looks to the new allied sources of supply, and especially to America.

The Chickasha Peanut Oil & Products Co., Chickasha, Okla., has been organized with D. C. Hybarger, president; H. A. McDonald, vice president and J. W. Owens, secretary and treasurer. Contract has been let for the erection of a building.

The Liberty Cotton Oil Co., of Texarkana, Texas with a capital of \$150,000 will erect a cotton oil mill with a daily capacity for crushing 80 tons of cottonseed and will also install equipment to crush soy beans, peanuts, etc.

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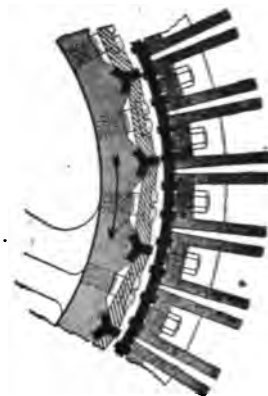


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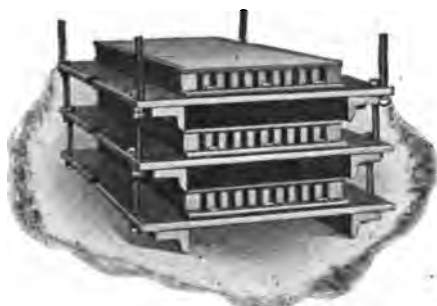
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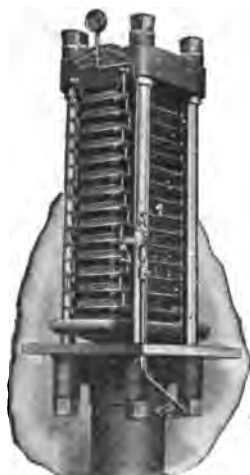
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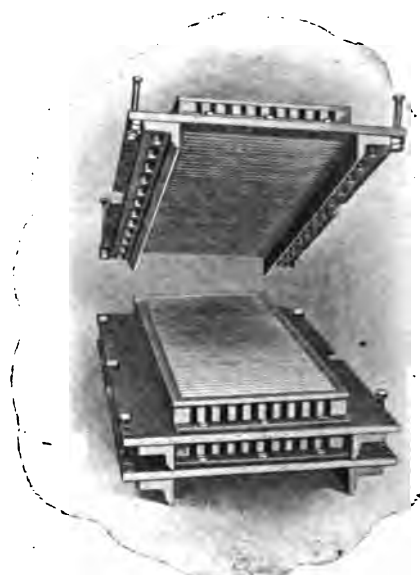
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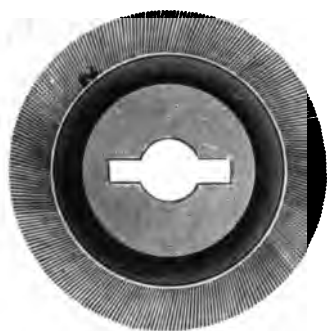
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Were first introduced by us to the Oil Mill trade about three years ago. They presented a NEW IDEA and immediately SET A NEW STANDARD, toward which competition has been working—more or less vainly—ever since. The new idea was that a Gummer File should cut on its edge, so as to DEEPEN the teeth as well as on the sides to SHARPEN them. Ordinary Gummer Files, having only mere rudimentary and "accidental" teeth on their edges (which soon wore slick), would file the sides and the points of the teeth and shorten them down to little stubs, but the SLICK EDGE of the file would skate along in the throat without lengthening or gumming the teeth to any appreciable extent. REAL GUMMING requires real file-teeth on the edge of the Gummer—CUT TEETH, not rolled or milled.

That's the Secret of the "EDGE-CUT" idea. It's not all of the secret, by any means, but the balance is merely in the expert and conscientious workmanship and the high-grade, high-carbon tool-steel which we use—both very expensive, but worth every cent they cost. ANOTHER THING is an element of their excellence and is as old as the art of file-making itself—that is, that real, sure-enough, honest TEETH are CUT on the edges. All file teeth always have been and always should be CUT with a chisel, and we GUARANTEE THAT OURS ARE NOT MILLED OR ROLLED ON.

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Three (3) second-hand 24" x 72" inside measurement old style Cooking Heaters complete, Smith Vail preferred. Address Heater, care Oil Miller, Empire Bldg., Atlanta, Ga.



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Attractive Prices—Efficient Service.

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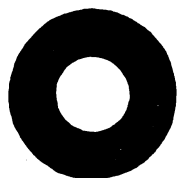
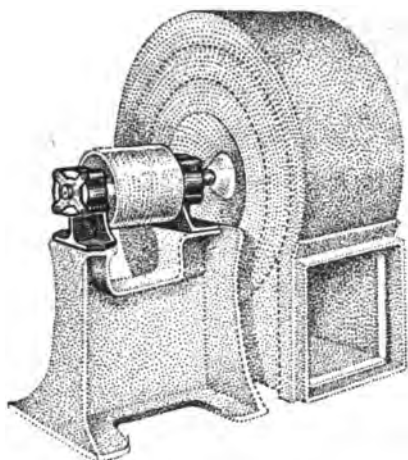
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Always on Hand.

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Your Plain Babbited Bearings
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Replacement easily and quickly made. Results saving in power, lubrication, time, attention. No interruptions or shut-downs. Great saving in fan belts. Full instructions for applying shipped with bearings.

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INFORMATION

NECESSARY FOR EQUIPPING FANS WITH
BALL BEARINGS

Make of Fan
Diameter of Fan Diameter Fan Shaft.....
Center of Shaft to Bearing Base on Pedestal.....
Size and Number of Bolts in Bearing Base
Bolt Spacing on Bearing Base
Remarks:

Bailey-Burruss Mfg. Company

ELEVATING, CONVEYING, TRANSMISSION, Etc.
OIL MILL MACHINERY.

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GEORGIA

"SALEM" (SALEM MADE) BUCKETS

Have Quality, Capacity, Easy Fill,
Clean Delivery and Endurance.



Know them by the Originator's address in a circle on the front. Insist on this stamp.

Sold by all Dealers and from our factory; let us mail our list and discounts.

We ship Regular buckets at sight of order and are exceptionally equipped to make up heavy buckets to order. Let us quote prices on anything in the bucket line.

The W. J. Clark Company
SALEM, OHIO.

Please mention this paper.

All Farm Products will Remain High for Years to Come.

Just Think of it!

Short Cotton at	30c lbs.
Long Cotton at	75c lb.
Cotton Seed at	\$35.00 ton
Peanuts at	\$125.00 ton
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Syrup at	\$1.00 gal.

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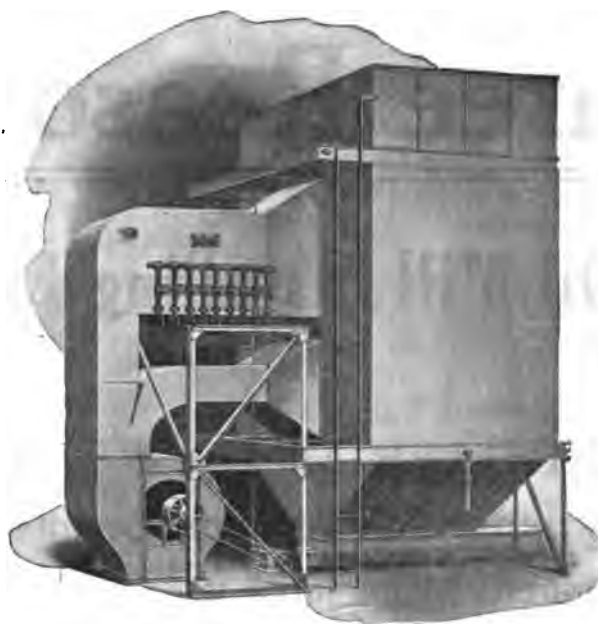
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would take the chance. Your only resource is to install an ELLIS DRIER which is absolutely guaranteed to dry damp cottonseed to your satisfaction. It is a business proposition pure and simple. Think it over.

100 Ton Self-contained Drier.

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Plain or Ball Bearing



McNulty Cake Stripper.



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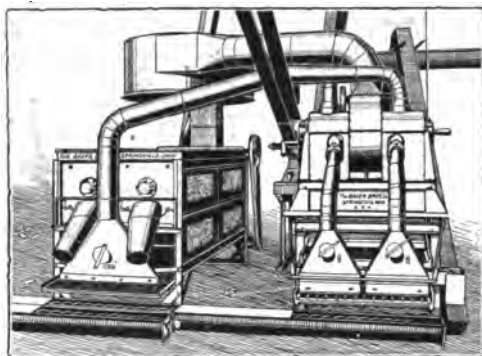
Automatic Change Valve



Automatic Continuous Cooker

Bauer
SCIENTIFIC

Will the No. 153 Bauer Separating Unit work as well in Woolly Seed, as in Closely Linted Seed?



IT WILL!!!

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UNDER WAR CONDITIONS—it was the maximum amount possible.
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The No. 153 Bauer Separating Unit is a successful “BAUER” product — Its use will make your profits larger.

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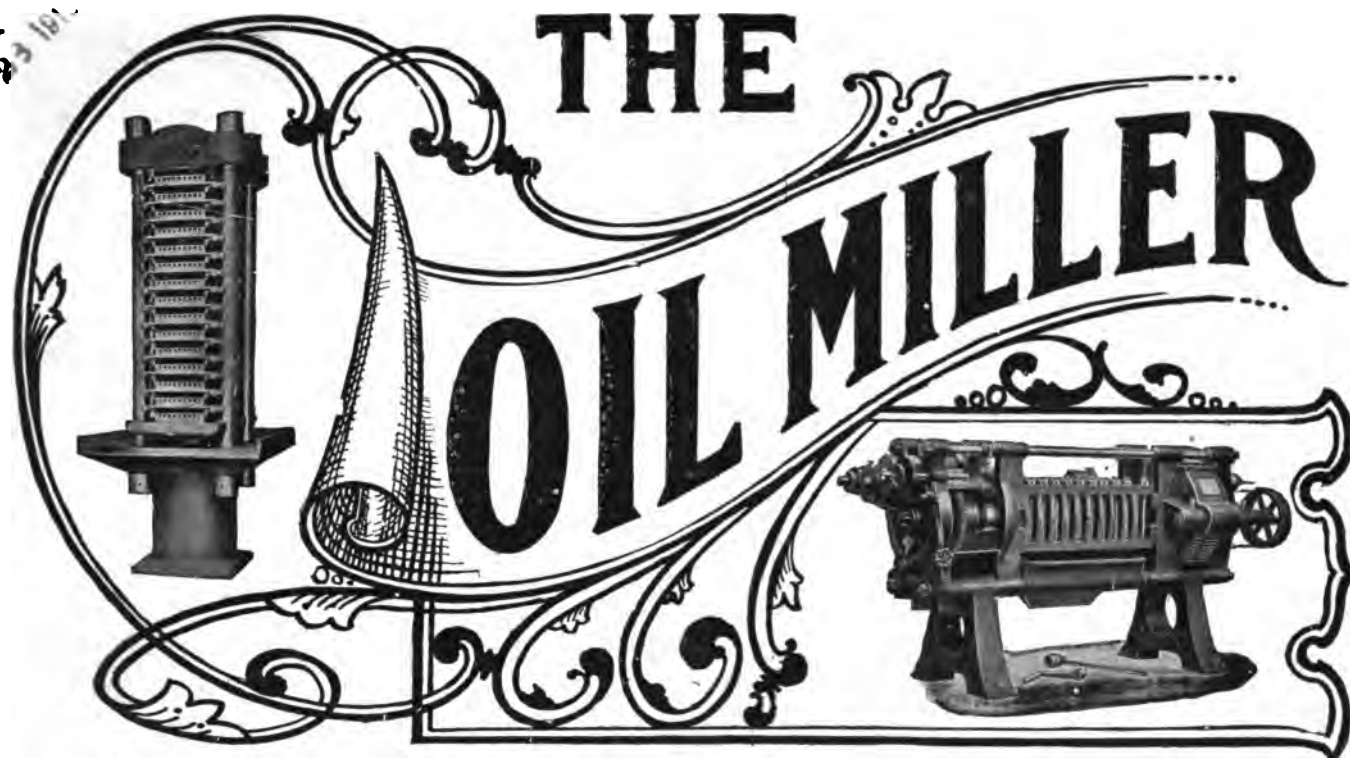
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SPRINGFIELD, OHIO.

Southwestern Representatives: Briggs-Weaver Machinery Co., Dallas, Tex.

SCIENTIFIC

ATLANTA, GA.:
PUBLISHERS' PRESS, PRINTERS

MAY 23 1919



Vol. IX. No. 9.
Monthly.

Atlanta, Ga., May 1919.

Entered as Second-Class Matter at Atlanta, Ga., under the Act of March 3d, 1879.

\$1.00
Per Year

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Transmission Belting

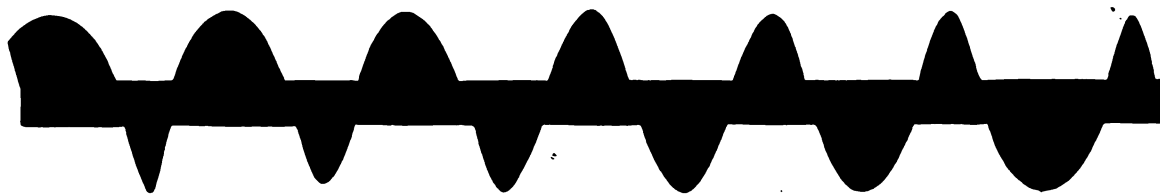
STEADY production in your Oil Mill depends upon the uninterrupted delivery of power to the machines.

United States Belting, correctly installed does away with costly shut-downs due to belt trouble.

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End Flights of Each Section of Jeffrey Sectional Flight Spiral, where the most wear occurs, are Extra Heavy.



Jeffrey U-Bolt Hangers and End Bearings are furnished with Jeffrey-Randall Graphite Sheet Lubricator which increases the life of the bearings about 300%—Saves 75 to 90% in oil or grease.



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Standard Steel Elevator Bucket for handling Seeds, Grain, etc.



Jeffrey Standard Detachable Chain and Attachments

JEFFREY Equipment For Cottonseed Oil Mills

A Complete Line of

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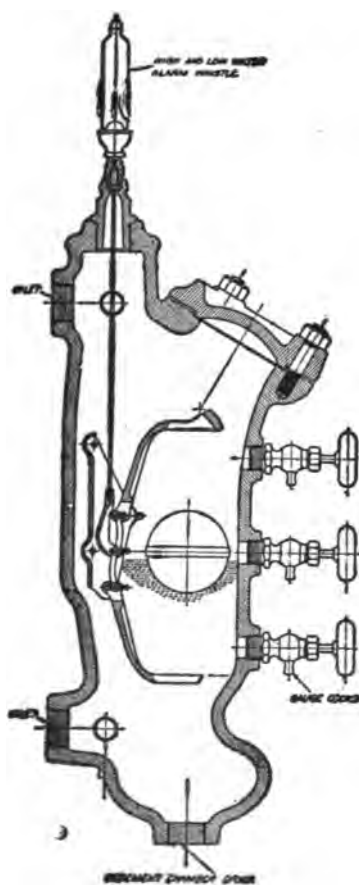


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The ANDERSON Safety Water Column



attached to your boiler gives you the necessary assurance as it will give persistent warning to the fireman when the water in the boiler is too high or too low. Our column is fitted with a high and low water alarm feature that always works. All working parts are hung on accurately machined bronze pivots in a removable hanger frame and will not rust or stick. The float is the best on the market for high pressure service as it is made of the best material obtainable and is tested for extreme pressures before leaving the factory. The columns are made in different sizes for the different types and sizes of boilers.

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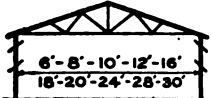
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Cleveland, Ohio

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Wall Heights, curb to eave, 7'-10" or 11'-6"*



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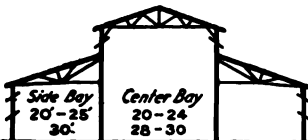


TYPE 2 (Two Bay) BUILDINGS
One Row of Columns in Center



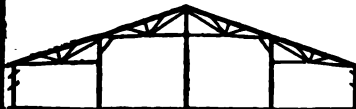
TYPE 3 (Three Bay) BUILDINGS
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Widths - 50' 52'-56'-58'-60'-64'
66'-70'-74'-78'-80'-84'-90'



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O. M.

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Address

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OF

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Send for our General Catalog No. 26 and Supplement No. 1A, if you haven't these editions on file. For discounts applying to List Prices covering our appliances, refer to Discount Schedule, now in your possession or, if you fail to locate same, we will be pleased to send a copy on receipt of your request.

MEDART PATENT PULLEY CO.

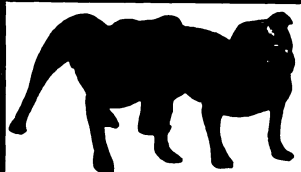
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**First Cost
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Slight**

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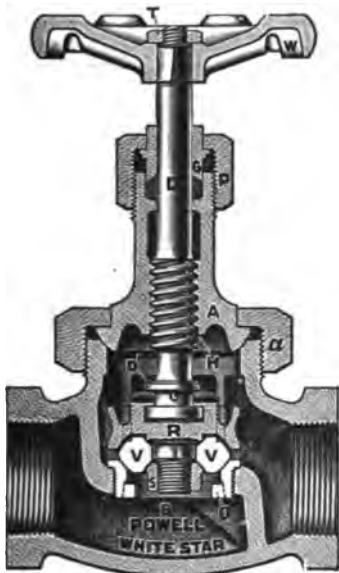
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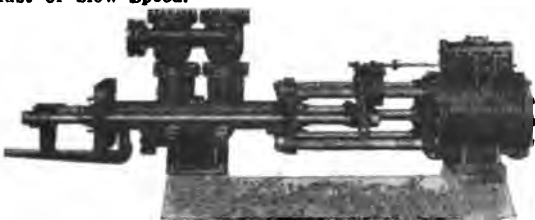
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"Powell Valves"
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AUTOMATIC POWER SHOVELS for unloading cars.

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renowned for
Quality,
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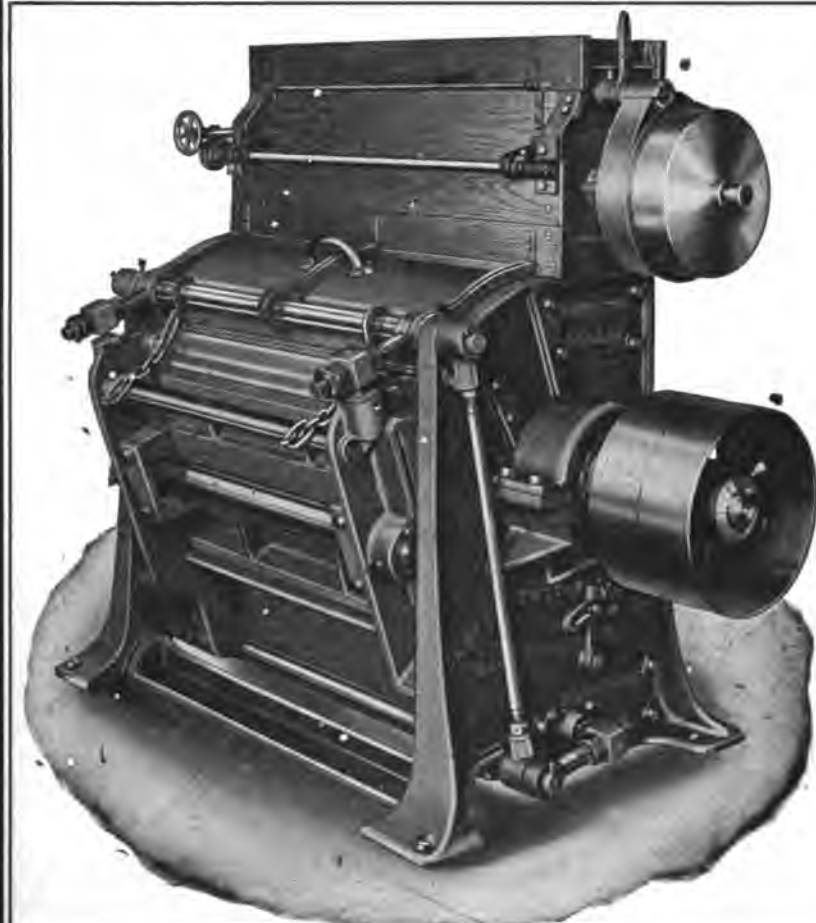
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Steel Constructed Shakers,
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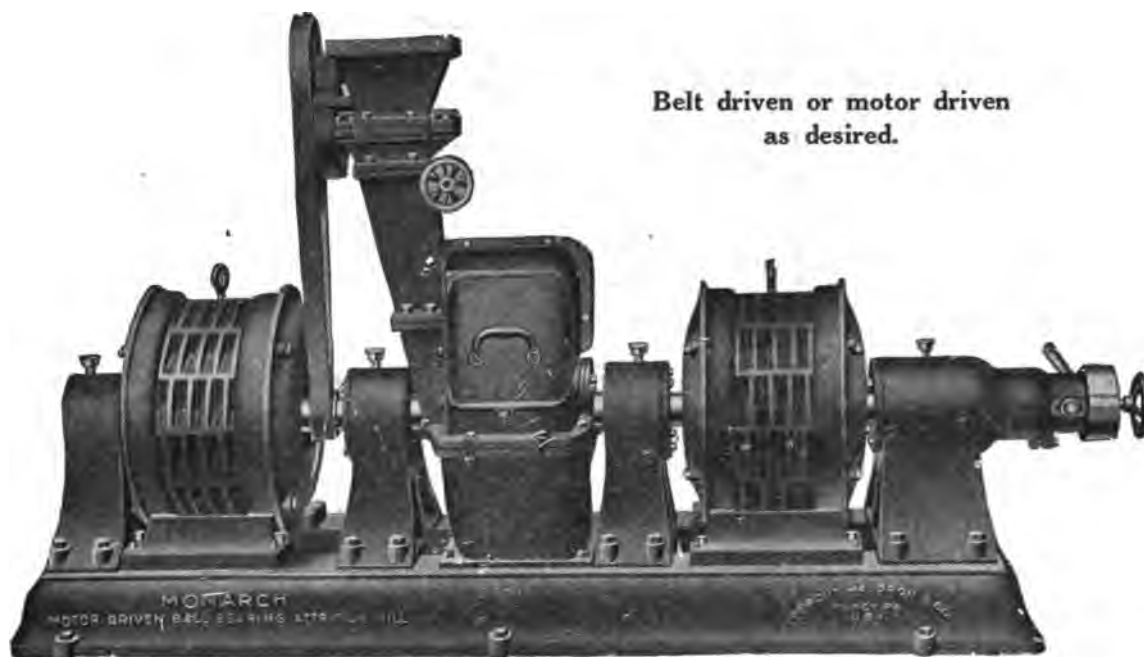
Of Improved and Modern Oil Mill Equipments.

Buy a Monarch and be Sure It's the Best

When you select

The Monarch Ball Bearing Attrition Cake Mill

You are sure that you have selected the very best there is on the market. For the manufacturer stands back of every claim they make for it. A full guarantee insures your purchase.



This Machine is the Highest Attainment in Mill Building

It is Power Saving
Permanently Non-Trammable
Easy of Operation
Lubrication is Economical and Cleanly
Bearings run Cool, are Dust-proof, Oil-tight and Durable
All individual parts are standardized
It is made to wear

Write for Complete Catalog.

Sprout, Waldron & Company

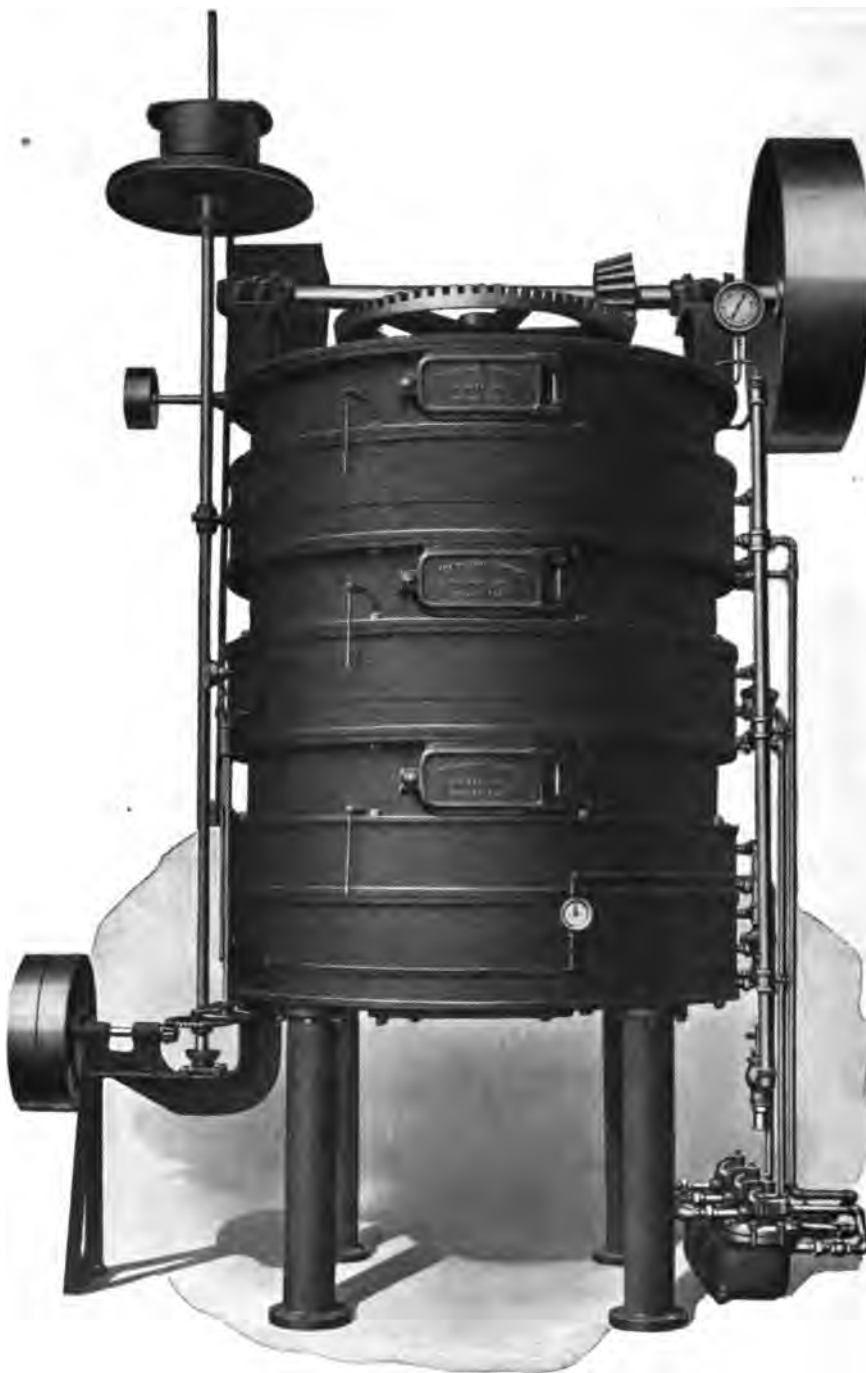
Ball Bearing Cottonseed Oil Machinery

Main Office and Works,

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P. O. Box 469

THE MURRAY COMPANY Thermostatic Cooker



Patents Pending

Will cook the meats properly and uniformly under all operating conditions. Any desired temperature is automatically maintained. It absolutely does not coke. Fewer parts are used than in any other Stack Cooker and the means provided to regulate the temperature, moisture, feed and travel of the meats through the Cooker are so simple and practical as to appeal instantly to every Superintendent.

Write us for our special Cooker Bulletin.

THE MURRAY COMPANY,
COTTON SEED OIL MILL and COTTON GINNING MACHINERY
ATLANTA **DALLAS**

THE OIL MILLER

Vol. 9.

Atlanta, Ga., May 15, 1919.

No. 9

THE OIL MILLER

OIL MILLER PUBLISHING CO.

MARY R. BURRUSS, Manager.

KATHERINE G. BIRMINGHAM, Editor.
Atlanta, Ga.

Subscription Price: \$1.00 per Year.
Three Years for \$2.00

Address all communications to The Oil Miller,
Empire Bldg., Atlanta, Ga.

Advertising Rates Furnished Upon Application.

Entered as second-class matter March 4th, 1913, at post
office at Atlanta, Ga., under act of March 3rd, 1879.

Official Organ Alabama Cotton Seed Crushers Assn.
Official Organ Arkansas Cotton Seed Crushers Association.
Official Organ Inter-State Oil Mill Superintendents Assn.
Official Organ North Carolina Cotton Seed Crushers Assn.
Official Organ Cotton Seed Crushers Assn. of Georgia.
Official Organ Mississippi Cottonseed Crushers Assn.
Official Organ Louisiana Cotton Seed Crushers Assn.
Official Organ South Carolina Cotton Seed Crushers Assn.

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TO IMPORT OR NOT TO IMPORT

That is the question. And public opinion seems to be divided upon it. California has gone on record as decidedly against it—at least the interests producing cottonseed and olive oils, though it is natural to be expected that the importers who have been doing such a flourishing business in imported oils will not thus look upon it.

Everywhere the manufacturers of domestic oils are indignant that an established price has been placed on their product and Oriental oils are then permitted to enter this country and be sold at a lower price than the domestic product.

California has introduced a bill in their legislature to prevent the use in food of any oil that has more than 1-4 of 1 per cent of fatty acid content and as much of the Oriental oil does not come up to this standard, the imported oil would in consequence be

barred or practically so. This would relieve the situation in California and assure the use of their home product by the packers on the Coast.

Food packers and compound lard manufacturers have used quantities of the Oriental product, though it is our understanding that the lard manufacturers some weeks ago agreed to use the domestic product and the moving of considerable quantities of cottonseed and peanut oils would indicate that they were doing so.

There is but little question that there will be need of all our cottonseed, peanut and other home produced oils and a demand as well for the Oriental product—but let the latter be put on a basis which is fair and just to the growers of oleaginous products in this country. England is protecting her industry—why should we not be equally as careful of ours?

But let us not be in this too narrow-mined. For we are the logical users of considerable Oriental oil as well as their raw product which it is likely will be coming to our country in increased quantities from now on. Let such legislation as may be put through be for the protection of the domestic producers but not in any way work a hardship on the packers, compound lard manufacturers, or soap interests. There will be use for all the oil and we will want to be known as exporters as well as importers. Let us look ahead and legislate wisely but with the interests of the home growers always in predominance.

THE ATLANTA CONVENTION

The Annual Convention of the Interstate Oil Mill Superintendents to be held June 4th, 5th and 6th, at the Atlanta Auditorium bids fair to be the most successful one on record. The Machinery Men's Exhibit will include all the latest developments in oil mill machinery and this is the time for the superintendents to come and familiarize themselves with the advancements which have been made in this line.

This convention is to the Superintendents what the post-graduate course is to the Doctor. It is the superintendent's yearly opportunity of acquainting himself with the best and latest developments in the oil mill industry. The time to meet with the authorities and discuss your problems. To hear the other fellow's problems discussed. You have no chance for this getting together at any other time during

ing the year. So collect all the points which may have come up during the season and which puzzled you and fetch them here for dissection and discussion.

The doctors have their medical associations where they discuss new problems or brush up on the old ones and most of them never let a year pass that they do not spend at least a week in some reputable hospital in a brief post-graduate course. Now, you are the doctor in your oil mill and it is your duty to perfect yourself in the methods of oil mill manufacture so that the product which you produce may not only be second to none, but that your mill may be run on the most efficient and economical basis. Then come to the convention where you can gather such information as you require and hear the advice of those who are old in oil mill experience and wise in oil mill administration.

It is not all serious business at the convention, there is the lighter side and the entertainment committee is putting forth every effort to make your stay in Atlanta both pleasant and agreeable. June 4th, 5th and 6th are the days Atlanta is waiting to welcome you.

MORE AMERICAN EGYPTIAN COTTON.

An industry—conceived and developed by the United States Department of Agriculture—which has proved practical and profitable is the growing of American-Egyptian cotton in the Salt River Valley irrigation project in Arizona. The business was established in 1912, when a few hundred bales of American-Egyptian cotton were produced. In 1918 the Salt River Valley planted approximately 71,000 acres to American-Egyptian cotton, with a crop of about 35,000 bales and a gross value of about \$300 a bale. On this basis the crop was worth more than \$10,000,000. The present indications are that the plantings will be still larger this year. Several thousand acres on the Yuma project in southern California and Arizona and in the Imperial Valley of California are now devoted to this crop. In addition to the work of the Bureau of Plant Industry in introducing and acclimating this variety of cotton, the Bureau of Markets has established official grades and lengths for marketing.

EMPLOY THE SOLDIERS

Everywhere we see the soldiers on the streets, every day more of them are coming back, every day some of them are looking for work. They have need of this work and after the sacrifices they have made for us, we would be but poor patriots if we turned a deaf ear to their requests.

We are inserting in our columns some of their "want ads" which it may be possible for some of our readers to answer when they are seeking such services. We urge everyone to not overlook this column if you are searching for help of any kind.

DRY OR PICKLE.

By B. M. Hess, Drier Sales Mgr., Hess Warming & Ventilating Co.

The deterioration of cotton seed in storage, due to excessive moisture, has caused severe losses to oil millers, for many years. Nearly every mill owner has had experiences with hot seed, turning it over, and chasing it around the seed house in an effort to delay its turning black as long as possible. He has been between the devil and the deep sea, having either to take the risk of a loss from spoiled seed, or to operate his mill only during the few months that seed is on the market.

It is not surprising that relief from this condition has been sought in many ways. Only two methods, however, have proven at all successful; the chemical method and the drying method.

The chemical method consists of treating the seeds with chemicals (which act as a preservative), before they are put in storage. This does arrest deterioration, but the chemicals are expensive, as well as the labor required to mix them with the seed. The chemicals are corrosive, also, in their effect on metals, making frequent repairs necessary, and shorten the life of the mill machinery. The presence of chemicals, also, makes the seed difficult to work, requiring considerably more power to handle and crush than untreated seed.

The drying method consists of removing the excess moisture from the seed, and putting it into storage, dry and cool. There are several means of accomplishing this, but an apparatus which seems to be most successful, consists of a seed holding structure, divided into two parts, the upper one for drying, and the lower one for cooling, with fans for moving the air, and steam coils for heating it. The seed is held in vertical layers, and large volumes of warm air are blown through this seed in the drying portion; and an equal amount of cool air through the seed in the cooling portion. The seed is fed in at the top, and is continuously moving down, first through the drier, and then through the cooler, being delivered at the bottom, dry and cool, ready to put into storage, and at a cost considerably less than the cost of treating the seed with preservatives.

Ten, or more, of these machines have been installed by one of the largest oil milling companies of the South, one at each of its largest mills. These people have zealously concealed the operation of these driers, and have withheld all information regarding them, from the trade. It is a fact, however, that the driers have proved very profitable to them, enabling them to buy damp seed, advantageously; to buy quantities sufficient to operate their mills continuously, out of season, and to preserve this seed, without loss, indefinitely. The

facts, in spite of their attempted suppression, have been creeping out, and considerable inquiry, among the trade, is the result, and a number of large installations are in prospect for the next crop.

PACKING IN THE OIL MILL.

By S. H. Noble, Crandall Packing Co.

The packing problems of the Oil Mill are of far more importance than is realized by a great many superintendents. A little thought on the subject will convince the most skeptical, that this is a very important feature in operating a mill successfully and economically. The Oil Mill Superintendent's lot is a very trying one at times, and with his many duties, he sometimes neglects his packing or depends on someone else. One reason for this is that the purchases in this line for the average mill are very small, compared with purchases in other lines. However, both the buying and the use of packing should be done scientifically and with the greatest care.

Packing should be bought for a specific purpose to get the proper results, as no packing will work all around, no matter what the manufacturer may claim. Packing should not be bought on account of price, as cheap packing usually proves the most expensive. Another bad idea is to buy packing by its looks, as the man who makes it cannot tell good from bad after it has been lubricated. Some manufacturers have taken advantage of this fact to market inferior material and sell it a little under market price, and some concerns buy it. Some of them discover their mistake and others do not, because the latter did not keep a record of services rendered.

The manner of applying packing is also most important, as quite a lot of packing is "killed" from the start by improper application. Too much care cannot be used in this operation, as packing, to function properly must have expansion. This expansion must be allowed for in the adjustment of the packing gland. Unless this allowance is made, the packing will expand against the rod causing a friction that burns and hardens the packing and in many instances scores the rod. There have been instances where the side of the stuffing box would be burned by the expansion, necessitating the expense of a new cylinder. After the packing is burned, even if it does not injure the rod or stuffing box, it loses all its life, will not hold and makes it necessary to shut down and install new packing, which is a very expensive operation.

Most oil mills use a Corliss engine with reciprocating piston rod and rocking valves. There are numerous packings on the market for this purpose and most of them have merit, but the most used for this purpose is metallic packing and what is known

as "Superheated or High Pressure steam packing." There are many kinds of metallic packing on the market, but the principal of all is very much the same, and as a rule the first cost is very high. This should never be used except on new rods or old rods that are as near perfect as is possible to make them. The best plan to buy metallic packing for an old rod, is to caliper the rod and order packing made a fraction smaller than it calipers, then turn the rod down, calipering same with a micrometer to the size the packing is to be made. The turning down of the rod is a very important feature, as a tool will not cut the same at the finish that it does at the start, especially on very long rods. This method will guarantee results, and without it there is always a chance that it will give trouble. The high pressure or superheated steam packing should be bought from a reputable concern, for the reason that the lubrication, quality of asbestos and cement used is very important. As stated previously all packing look alike after they have been lubricated, and unless the proper ingredients are used, it is likely to harden, ruin the rod, and in the end be cut out with a chisel and hammer.

Boiler feed ends and water pumps require a good steam packing for the steam rods and if handling hot water, the rubber and duck steam packing is usually best. Flax should not be used on hot water rods. This is very good for cold water, but being lubricated with tallow, the hot water washes the lubricant out of the packing and renders it useless. The flax coming apart and working through the pump will clog the valves and is likely to cause considerable trouble. A great many engineers will not use flax because they have never had a good grade of long fibre flax. Very few concerns sell this grade as it is expensive and a short fibre or jute, after it is lubricated, looks equally as good and will sell for the same price, which has encouraged many concerns to sell an inferior article. Long fibre flax will give excellent results against cold water.

An outside packed plunger pump as a rule gives trouble unless properly packed and much care should be used in selecting packing and in the application. The large surface that is to be packed makes it absolutely necessary that the packing should fit loose, and that it should be well lubricated. Packing put in tight will cause the plunger to bind, and requires an excess of energy to move it. It is a very good idea to allow a small leak on pumps of this kind when the plungers are very large, water being one of the best lubricants known. Another good lubricant for this work, especially pumps using hot water, is a good grade of cup grease thoroughly mixed with powdered graphite. This should be rubbed on the plungers, and on each stroke it will catch on the gland and keep the packing lubricated. Fluid oil runs off as soon as applied, as well as causing

a suction. Grease applied in this manner will add 50 per cent to life of any packing used.

The inside packed plunger pump requires what is known as Tucks packing. There are several grades of this packing, and it is well to use the best, as it is quite a job to repack. The quality of this material depends on the weight of duck and quality of friction between the plies.

Boiler gaskets are made of several different materials also. The most commonly used is the flat wire inserted asbestos gasket. However, there are some manhole plates made that will not take a flat gasket and in this case a round material is used. This is made of asbestos wire inserted, also of a rubber composition. This can be bought in the coil form or made in gaskets ready to apply. Some superintendents use the wire inserted gaskets more than once and it is very satisfactory, unless it has become hardened. Soaking in cylinder oil will soften it so it can be used again, but the cost being so small, it is considered inexpedient to use them more than once. If one should leak, the expense of changing would offset the cost of a year's supply of boiler gaskets. Rubber gaskets cannot be used more than once.

The cake former in an oil mill is about the most difficult thing to pack that the packing people have to contend with. The reason for this is the shallow stuffing box, large plunger, irregular service and excess condensation. The average stuffing box on a cake former 1 1-2-inch deep, taking 3-4-inch packing. This allows two rings only, and the joints are broken only once. This is not enough, as no stuffing box should have less than three rings. Some manufacturers are making a packing 3-4-inch wide and 3-8-inch thick, which allows for four rings. This has proven very satisfactory. This packing should be made of a very tough substance, as the work is very severe. A copper covered ring in the bottom to act as a buffer has proven very good. The other rings should be a soft steam packing. There is also the hydraulic former which requires a leather "U" packing, the same as oil presses. For the carriage or buggy, also the throttle valve on a steam former, ordinary steam valve-stem packing is all that is required.

The hydraulic pumps should always be packed with a leather packing. This can be had in several shapes, and there is quite a difference in opinion as to which is best. Some contend that the flange cup packing is best; others the leather rings, being solid diagonal rings alternated. Braided rawhide is also extensively used. Any one of these packings is good, if applied correctly on a good rod. The high pressure that these pumps carry makes it imperative that the rods be in good condition.

Ever since the oil mill business was started, the

manufacturers have been experimenting on packing for an oil press, and after all the experiments, there is but one remedy and that is the leather "U" packing, and the best is none too good. These are made of oak tanned leather and chrome tanned leather, the latter being a little more expensive. Either should be made of the best new stock, as a flaw in one, or one made of inferior leather will cause trouble. Packing for the change valves and equalizer valves should be the leather flange cup packing made to fit.

The safest way to ascertain whether maximum service is being rendered from your packing is to keep a record. This can be accomplished very easily, and the most simple way is to keep a card index on every machine using packing. Have a column for the style packing used, date of application and cost. It is also a good idea to have the dimensions of the rods and stuffing boxes on this card to eliminate having to take measurements each time you place an order. If this is done, a plant can be standardized and experiments will be eliminated.

COTTON VARIETY TESTS ON OIL CONTENT.

The work which the Georgia Agricultural College has been doing, endeavoring to encourage the planting of those varieties of cotton which not only produce a good yield but also have seed with large oil content has been watched with interest by all oil millers.

Professor Loy E. Rast of the division of Agronomy of the college has had charge of these variety tests and makes the following report on the work done in 1918.

"The land on which the cotton varieties were grown in 1918 is a red, sandy loam (Cecil sandy loam). A crop of oats followed by cowpeas occupied the land the previous year. The peas were plowed under in the fall and the area was left rough for freezing and thawing to break up and mellow. In early spring, the area was double cut with a disk harrow, and on March 18, 500 pounds of 16 per cent acid phosphate and 100 pounds of 20 per cent sulphate of ammonia was applied broadcast. The rows were immediately laid off four feet apart, and the beds were made with a one horse Planet Junior and subsequently settled by several hard rains.

These varieties were planted at the rate of one bushel of seed per acre on April 10. There was sufficient moisture in the soil to produce immediate germination and a perfect stand was obtained, but several cold, rainy days prevented rapid growth of the young plants for about ten days. Cultivation began as soon as the weather would permit, and this, together with subsequent favorable seasons, induced rapid growth which continued throughout the season.

"The table given below shows the difference in the value of the seed per ton produced by the varieties grown. Average seed this year contain approximately 20% oil, or 380 pounds per 1900 pounds of clean seed. The fixed price of seed in car lots is \$71.00 per ton on this basis, seed of Caldwell's cotton, which ranks thirty sixth in the table, are worth only \$62.77, or \$8.23 per ton less than average seed. On the other hand, seed of Mexican Big Boll, which ranks thirty seventh in the table, are worth \$82.67 per ton, or a premium of \$11.67 per ton, thus making a difference of \$19.91 per ton in the value of the seed from these two varieties.

"Oil millers have agreed to pay a premium for seed that are high in oil content when marketed in car lots. It is but fair to expect that inferior seed will be purchased at a discount. It is, therefore, to the interest of all cotton growers to consider both the value of the seed and lint produced by the variety of cotton they plant."

Rank	Name of Variety	Total Yield Seed Cotton	Yield Lint	Value Lint	Weight of Seed	Per Cent Oil in Seed	Total Pounds Oil Per Ton	Value of Seed per Ton	Value of Seed Produced	Total Value of Crop
1	*Meade	1604 465	325.50	1139	23.13	439	\$81.30	\$46.30	\$371.80	
2	College No. 1	2431 972	291.60	1459	19.30	367	68.58	50.01	341.61	
3	Wanamaker's	2088 877	263.01	1211	17.91	340	63.54	38.17	301.47	
4	Brown's No. 4	1964 845	253.50	1119	20.13	383	71.55	40.03	293.53	
5	Steinheimer's	2108 833	249.90	1279	18.60	353	65.71	42.52	292.42	
6	Express 412	2051 800	240.00	1251	20.82	395	73.82	46.17	286.17	
7	Hooper's	2074 809	242.70	1265	19.38	368	68.77	43.46	286.16	
8	College No. 2	2072 808	242.40	1264	19.04	362	67.64	42.75	285.15	
9	Dixie	1926 809	242.70	1117	20.92	397	74.18	41.53	284.13	
10	*Weaver 49	1585 618	247.20	967	21.40	407	76.06	43.78	283.98	
11	*Lone Star	1771 602	240.80	1169	19.77	375	70.07	41.33	282.13	
12	*Dixie	1684 573	229.20	1111	20.80	395	73.80	49.09	270.19	
13	Meadow's	2031 731	219.30	1300	20.04	381	71.20	46.28	265.58	
14	Fowler's	1849 740	222.00	1109	19.06	362	67.65	37.51	259.51	
15	Piedmont	1846 720	216.00	1126	18.38	349	65.22	36.72	252.72	
16	Council Toole	1785 714	214.20	1011	20.25	385	71.94	38.52	252.72	
17	*Foster 120	1552 528	211.20	1024	19.69	374	69.90	35.78	247.98	
18	DeSoto	1937 661	198.30	1276	20.64	392	73.25	46.73	245.03	
19	Child's Toole	1689 709	212.70	980	18.40	350	65.40	32.05	244.75	
20	Culpepper's	1860 707	155.10	843	20.66	393	73.44	30.95	243.05	
21	Summerour's	1424 712	213.60	712	20.96	397	74.20	26.42	240.02	
22	Brown's No. 2	1695 678	203.40	1017	19.98	380	71.00	36.10	239.50	
23	Lewis 63	1809 642	192.60	1167	20.80	395	73.82	43.07	235.67	
24	Brown's No. 1	1670 668	200.40	1002	19.63	373	69.70	34.92	235.32	
25	William's	1785 669	270.00	1116	18.85	359	67.10	33.55	234.25	
26	Texas Burr	1749 630	189.00	1119	19.92	379	70.84	39.73	228.73	
27	Sunbeam	1658 630	189.00	1028	20.57	391	73.10	37.55	226.57	
28	*Foster 449	1409 479	191.60	930	19.03	361	67.45	31.36	222.96	
29	Mexican	1552 621	186.30	931	19.51	371	69.33	32.27	218.57	
30	Rexall	1614 589	177.70	1125	22.33	424	79.22	40.60	217.30	
31	Petway's	1497 584	175.20	913	23.55	423	79.00	36.06	211.26	
32	Trice	1677 570	171.00	1107	19.81	376	70.25	38.88	208.88	
33	Poulnot	1509 589	176.70	1020	19.38	368	68.70	31.63	208.33	
34	Utopia	1451 580	174.00	871	20.69	393	73.42	31.97	205.97	
35	Lilysey's	1578 552	165.60	1026	19.78	376	70.25	36.04	201.64	
36	Cook's	1429 572	171.60	857	18.88	358	66.90	28.67	200.27	
37	Caldwell	1549 558	167.40	991	17.69	336	62.77	31.10	198.50	
38	Mexican S. C.	1414 530	159.00	1884	23.31	443	82.68	36.49	195.49	
	Average	1747 658	212.90	1079	20.07	381	71.12	38.36	151.26	

* Long-staple upland variety.

The bleaching of cottonseed oil with fuller's earth causes a loss, and probably does not materially improve the quality of the oil. If the trade did not demand a white cooking compound, it would be possible to dispose with this operation.

CONVENTION CALENDAR.

Society of Cotton Products Analysts—May 16th-17, New Orleans, La., Grunewald Hotel.

Inter-State Cotton Seed Crushers' Association—May 19th, 20th, 21st, New Orleans, La., Grunewald Hotel.

National Oil Mill Superintendents' Association—May 27th, 28th, 29th, Memphis, Tenn.

Oil Mill Machinery Manufacturers & Supply Association, May 27th, 28th, 29th, Memphis, Tenn.

Inter-State Oil Mill Superintendents Association—June 4th, 5th, 6th, Atlanta, Ga., City Auditorium.

Oil Mill Superintendents' Exhibitors' Association—June 4th, 5th, 6th, Atlanta, Ga., City Auditorium.

Texas Cotton Seed Crushers' Association—June 9th, 10th, 11th, Galveston, Texas, Hotel Galvez.

Georgia Cotton Seed Crushers' Association—June 17th, 18th, Savannah, Ga., Hotel Savannah.

A HARD NUT TO CRACK.

Growing interest in the cohune or baba assu nut in Central and South American countries is being displayed since machines now are on the market which successfully solve the problem of cracking the shell without crushing the kernel, one of which machines is illustrated.

In September we told of the visit of Mr. O. K. Piquet, of Rio Janeiro, Brazil, to this country, who spoke of the exceeding richness of the oil, but regretted that they had so far found no machine to crack the nut without crushing the kernel.

This article brought forth a protest from Douglas & Grant, Ltd., Kirkcaldy, Scotland, and the enclosed photograph of a machine of which they had sold 100 to one firm in South America which were doing exactly this work.

A late issue of The Scientific American gives some interesting data on the cohune nut in which mention is also made of a machine in use in British Honduras. This article states in part:

In December, 1917, the writer received a commission to investigate the possibilities of the Attalea cohune as a source of oil on a commercial basis in British Honduras. For many years these nuts have been exploited by the natives of British Honduras as a source of fat for culinary purposes, as well as for lighting their homes. There is hardly a traveler who has gone into the interior of the country who has not returned with reports of the immense areas covered by the corozo or cohune forests, especially in the northern districts of this colony. Attempts were made as far back as 1869 to make the cohune an important article of commerce. Later several English concerns at different times attempted to make the business profitable, but owing to their lack of knowledge and limited funds for experimental purposes, they have followed their predecessors in failure.

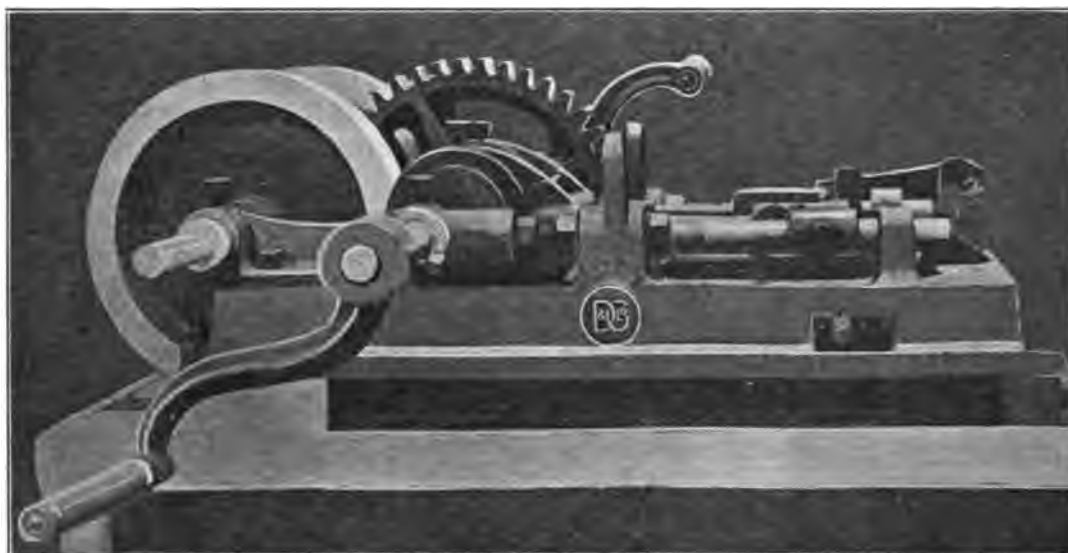
In recent years the growing value of all edible oils has stimulated American capital and ingenuity to attack the difficulties encountered by the men who first blazed the way.

In Central America the tree of greatest importance from an oil standpoint is the *Attalea cohune*, though there are many different oil seed-bearing palms. In the earlier stages of its growth it is by far the most beautiful and most graceful of all the forest trees of the tropics. It is easily distinguished from any of the other members of the palm family. Its immense, almost erect leaves attain a length of 40 feet. The upper third of the leaf droops slightly, giving the whole tree the appearance of a giant feather duster. The fruits are borne in huge clusters, having the appearance of enormous bunches of grapes. A single bunch often

crushers were used. They broke the shell, but in so doing crushed the kernel and in crushing the kernel, partially pressed out the oil which, upon contact with the warm and humid atmosphere, turned rancid, spoiling the product for market.

The natives' method has been, after proper treatment, to crack the nut between two stones. They become very dexterous; with a peculiar blow the shell is shattered and the kernel freed whole.

Enclosed in the shell are found from one to three kernels about one and a quarter inches long by seven-eighths of an inch through. The kernel contains from sixty-five to seventy-two per cent of a hard, white fat with a melting point of about sixty-eight to seventy-seven degrees Fahrenheit. This fat is almost identical with the fat from cocoanut



weighs upwards of one hundred and fifty pounds.

The trees bear from one to three, sometimes four, clusters. In the months of April and May the trees put forth a woody spathe covering the blossoms. As the bud swells, the spathe splits down its entire length and a mass of creamy white flowers breaks through, filling the air with a delightful perfume. After about five days, the flower fades and falls to the ground like a tiny snowstorm. The fruits grow rapidly in size for about five months when they have the appearance of being full. If the bunch is cut and a fruit is examined at this stage, it will be found to consist of, first, a tough, fibrous outer covering of a greenish brown color. This is locally known as "husk" and contains considerable oil. Inside the "husk" is the "shell" which is probably the hardest and toughest nut shell in the world. A pressure of 1,800 pounds is necessary to break it. The difficulty of cracking this shell has been the stumbling block to the successful exploitation of the American palm nut industry. Many kinds of breakers and crushers have been tried with the object of cracking the shell without crushing the enclosed "kernel." Various types of rock

copra and for some purposes is superior to it.

If the bunch of fruit is cut before fully ripening, which takes about nine months, a small cavity is found in the kernel filled with a watery liquid similar to that of the edible cocoanut. At this stage, the nut is not at its best for the production of oil. Experience has taught the native to allow the nuts to ripen and fall from the stalk before gathering, as the fully matured nut, while still on the stalk, cannot be distinguished from the undeveloped nut of seven or eight months. Men, women and children gather the nuts into piles and place them in patios or cleared spaces in the groves beside the roads. The nuts are allowed to lie upon the ground from one to three months exposed to the sun, when they are ready for cracking. At this stage of the operation the cavity in the kernel has disappeared and the kernel is solid and tough.

A study of the native methods has shown that the justification for the long, slow drying period is not only to allow the kernel to loosen itself from the shell, but also to toughen the kernel and make the shell more brittle. Improved methods developed by a company now engaged in putting the co-

hune on a commercial basis have shortened this period considerably.

The nuts, after gathering, are hauled to the nearby waterside and in large barges are towed to the plant. To facilitate drying, they are passed through a rotary husker which removes the pericarp or husk. They receive a preliminary drying on the patio for a few days and are then transferred to tempering sheds, with slatted sides, which allow the free circulation of air through the heap. In a few more days they are ready for the mill.

The nuts are delivered to a bucket elevator which carries them to a hopper above the cracker, close to the roof of the building. This machine is an ingenious device, the invention of the heads of the company, and is being patented in all countries where hard shell palm nuts are of interest.

The cracking machine consists of a huge cast iron bowl, six feet in diameter, containing in its interior a rapidly revolving fan or rotor supported on a vertical spindle. The rotor and its spindle, weighing about six hundred pounds, are so nicely balanced upon roller bearings that when revolving at 1,000 revolutions per minute, no vibration is noticed. The nuts are fed from the hopper through an opening in the center of the rotor and are thrown tangentially by centrifugal force against a circular breaking wall which lines the upper rim of the bowl-shaped casing. The shell is cracked and the particular shape of the circular walls deflects the nuts and shell downward and out of the way of the oncoming nuts. The mass of shell and kernel fall through an opening below to a separating device which takes out the major portion of the shell and delivers it to a conveyor leading out of the building to the shell pile. The kernel and a small portion of the shell are delivered by gravity to a slowly traveling picking belt. Native women, stationed at intervals along the belt, pick out the kernels and drop them into a chute. The kernels, after a short preliminary drying, are sacked for the market.

The plant has a capacity of 40 tons of nuts per day and is operated by steam—a 35-horse-power engine and boiler supplying the power. A small portion of the shell from the nuts serves as an admirable fuel, almost equal to coal, and costs practically nothing. Experiments made by the company to use this fuel for the manufacture of producer gas have proved very successful. Gas producers will be installed in the tow boats to utilize the shell in place of costly fuel oil.

Physically the cohune oil has the same general appearance, color, odor and taste as the palm oil which has already won its place in commerce. They are being used interchangeably for the same purpose, namely, in the manufacture of fine soaps and of nut butters. This latter industry has in-

creased enormously in the United States in the last two years. Government statistics show an increase in consumption of these oils as the chief ingredient of nut butter, during the past 12 months, of over nine hundred per cent. One manufacturer alone uses 40,000 pounds daily in his butter factories. When we learn that in 1916 the United States imported over 46,000,000 pounds of palm and palm kernel oil, of an aggregate value of \$3,400,000, we will be able to formulate some idea of the size of the industry. Indeed, of all expressed vegetable oils we bring in about \$20,000,000 worth each year; and the portion of this field which is not subject to invasion by the cohune product is a small one. The cohune oil is entirely digestible and highly nutritious, making it particularly advisable for use in foodstuffs.

Since the United States entered the world war, several large concerns are preparing themselves for operations in the field of palm kernel production in Central America; and this undoubtedly means that in the near future the forests of the tropics will help solve the serious question of a shortage of fats in the United States. The chief obstacle in the way of utilization of the cohune has been overcome in the cracking machine described. To the question whether there is a sufficiency of this nut to be had to make it worth while for harvesters and refiners to pay it serious attention the answer is an emphatic yes. It is not as though the growth of the plant depended upon human agency, nor yet as though it were exposed to human destruction. The ground on which it now grows is available for no other use, and if demand should show indications of outrunning supply, it would be possible to plant 100 square miles in cohune trees, which in seven years would be in full bearing.

SOY BEANS AS GREEN VEGETABLES.

Hahto soy beans, introduced from Japan, are excellent for the production of green beans similar to lima and butter beans. About 115 days are required for the bean to make sufficient growth for use as a green vegetable. Although the Hahto bean is best adapted for growing in the southern States, it may also be successfully produced as a green vegetable during favorable seasons throughout the corn belt, according to specialists of the United States Department of Agriculture. Being a bush variety, it also is adapted for forage production, its yield of green feed or seed being superior to many other varieties on the market. In a dry form the Hahto bean cooks up easier than other varieties and has a better flavor. This bean is to be grown extensively by boys' and girls' gardening clubs in the southern States during the coming season.

CONTROL OF MIXED FEED CONTAINING LOW GRADE FEEDING STUFFS.

In the last year there has been considerable discussion of laws concerning low grade materials in mixed feeding stuffs. A bill has been introduced into Congress which limits the sale of some low grade materials, requires the statement of the quantity present and prevents their sale except when unavoidable. The State of New York has made a requirement that the percentage of low grade feeding stuff shall be stated upon the tag, and requiring different colored tags to designate the classes of feeds.

Some Experiment Station and Department of Agriculture workers have stated that it is impossible to enforce a law requiring a statement of the percentage of low grade ingredients in feeding stuffs.

Twelve years ago the legislature of the state of Texas passed a feed law which contained a section defining a feed as adulterated if it contained any sawdust, dirt, damaged feed, or any foreign matter whatever, or if it is in any respect not what it is represented to be, or if any rice hulls, or chaff, peanut shells, corn cobs, oat hulls, or other similar feeding stuffs of little or no feeding value are mixed with it. But it is provided "that no wholesome mixture of feeding stuffs shall be deemed to be adulterated if the true percentage of the constituents is plainly and clearly stated on the package and made known to the purchaser at the time of the sale." Thus Texas permits the sale of any wholesome feeding stuff, but provides that the purchaser shall know the percentage of ingredients when a low grade feed is present.

This particular feature of the Texas Feeding Stuff Law has been enforced since September, 1907, nearly twelve years. It has been enforced, quietly and effectively. There has been no particular noise made about it, and the annual Bulletin does not show the percentage of the constituents of the feed. All the same, this law has been enforced. It is my intention to call your attention to some of the methods used and the results secured.

The crude fiber content of some feeds, and some adulterant are as follows: Corn 3.0 per cent, corn cobs 34.0 per cent, rice bran 15 per cent, rice hulls 40.0 per cent, cottonseed kernels, extracted 3.0 per cent, peanut hulls 61.0 per cent, oat hulls 30 per cent, wheat bran 10 per cent. The adulterant are high in crude fiber, while the concentrated feeding stuffs are comparatively low. It is therefore, not possible to add an adulterant to a concentrate without increasing the crude fiber. This fact is of great importance in enforcing the law requiring proper labeling of feeds.

There are other ordinary analytical determina-

tions which are of especial importance in particular cases. For example, peanut kernels are rich in oil, containing 45 per cent or more. Thus a mixture of peanut kernels will raise the oil content of the feed. This fact has proved of importance in connection with mixed feeds containing peanut hulls and some peanut kernels. There is a tendency to claim more peanut kernels than are really present.

The high protein content of cottonseed meal is well known. If, therefore, any appreciable amount of cottonseed meal is present in a mixed feed, it must raise the protein content to an appreciable extent. If, therefore, a proper relation is established between the guaranteed amounts of the ingredients and the guaranteed analysis of the mixed feed, the ordinary complete chemical analysis is a very great aid in the enforcement of the law requiring the percentage of the ingredients to be stated. Any material adulteration will be revealed soon or later. As one of our inspectors remarked to me, "a man who dangles on the edge is going to fall in." He who falls short a small amount in a guarantee will sooner or later increase the defect enough to justify a court case against him.

I will give a few examples of the relation of the chemical analysis to the constituents of a mixed feed. There are sold in our state a number of feeds containing about 20 per cent cottonseed meal and low in crude fiber, while the hulls are low in protein and high in crude fiber. A deficiency in the quantity of the meal will immediately manifest itself by the protein running below guarantee, when there is the proper adjustment between the guaranteed analysis and the percentage constituents.

This is merely an illustration, and others can be added.

In connection with the chemical analysis, we use a physical examination. Many of the feeds sold in Texas are not finely ground, and physical examination can be conducted with considerable accuracy. Even in the case of finely ground feeds, a physical examination or a microscopic examination when compared with the guaranteed ingredients of the feed, will give excellent results. There are other methods that can be used. The insoluble as is a valuable index with respect to some feeds, particularly those containing rice hulls. A sifting test made with different sizes of sieves gives valuable results. Furthermore, there are methods of chemical analysis which we are not yet ready to make public, as we have not developed them to that point.

The difficulty of enforcing a law showing the constituents of a mixed feed depends somewhat upon the way in which the matter is handled. If the chemist is given the sample with no other information, he is given a difficult and expensive

problem. However if the chemist is furnished with a statement of the guaranteed composition and the guaranteed percentage of ingredients, the question is simply whether the sample comes up to the guarantee, or deviates sufficiently for a court case. In the majority of cases, this question is easily answered by the ordinary complete feed analysis and the physical examination. In other cases, the matter is more difficult, and it is possible that in Texas we have passed samples which should not have been passed. But samples are passed under the human food law, which are adulterated. The next sample of the same feed may not be passed.

The formula of a few of the mixed feeds sold upon the Texas markets will now be given, and you may judge, if you please, whether it gives more protection to sell with a guaranteed composition and a high sounding name, alone, or with a guarantee of the percentage of ingredients.

Mixed Feed—Wheat bran 55 per cent, rice hulls 25 per cent, rice polish 20 per cent.

Dairy Feed—Cottonseed meal 42 per cent, cottonseed hulls 85 per cent.

Peanut Feed—Peanut hulls 60 per cent, whole pressed peanuts 40 per cent.

Mixed Feed—Corn chops 30 per cent, cottonseed meal 5 per cent, rice bran 21.5 per cent, rice hulls 8 per cent, molasses 15 per cent, alfalfa 20 per cent, salt 0.5 per cent.

Mixed Feed—Cottonseed meal 20 per cent, cottonseed hulls 80 per cent.

Mixed Feed—Wheat bran 60 per cent, corn bran 20 per cent, peanut hulls 16 per cent, cottonseed meal 4 per cent.

Superb Feed—Alfalfa meal 20 per cent, peanut meal 15 per cent, peanut kernels 4 per cent, molasses cent, molasses 30 per cent, rice straw 43 per cent.

Dairy Feed—Corn bran 90 per cent, corn cobs 7 per cent, corn screenings 3 per cent.

Dandy Mixed Feed—Wheat bran 60 per cent, hominy feed 15 per cent, rice hulls 20 per cent, wheat screenings 5 per cent.

Stock Feed—Alfalfa 35 per cent, ground corn cobs 35 per cent, molasses 30 per cent.

Superb Feed—Cottonseed meal 15 per cent, peanut 17 per cent, peanut hulls 68 per cent.

Stock Feed—Corn 5 per cent, wheat bran 10 per cent, molasses 30 per cent, rice straw 43 per cent.

Mixed Feed—Molasses 55 per cent, rice straw 45 per cent.

The above are actual feeds offered for sale on the Texas markets, though the names used here are not those used by the manufacturer. The mere reading of the ingredients of these feeds is sufficient to convince an ordinary man that a law requiring the percentages of ingredients to be stated,

is of great benefit to the feeder. In my opinion, this law has saved the Texas feeder millions of dollars during the twelve years of its enforcement. During the last few years, when feed has been scarce and high, and the country has been scraped for feed materials, the saving to the Texas feeder in knowing what he is getting, has been great indeed. This saving has helped the entire country, for if the feeder pays excessive prices for low grade feeds, he must pass at least part of it to the consumer in the form of higher prices of meat and milk, so that in the end we all help pay the bill.

It has been argued that a law requiring the percentage of ingredients of a feed be stated, cannot be enforced. Poor Professor Langley was lagged into his grave when his flying machine would not fly—but how now? Langley's own machine has been made to fly. Men have done thousands of things which others said "could not be done." It is true, that to do a hard thing, we must try, and perhaps try again and again. Chemists who have turned coal tar into a mine for producing thousands of dyes of all the colors of the rainbow, and solved some of the mysteries of life itself, will not say "it can't be done" when the ingredients of a mixed feed are in question.

The twelve years' experience with the Texas feed law has fixed it firmly in my opinion that the statement of the ingredients of a mixed feed, particularly where adulterants are present, is a great protection to the feeder, can be enforced, and should be a feature of every feed law.

I agree with the Editor of Flour and Feed, the organ of the mixed feed manufacturers, when he says "The tag on the bag of feed should be an honest and complete description of what the feed is made of. It is to this end that all legislation in the feed business should be directed, backed up, of course, by legislation to make sure that this end is carried out." In order to do this, the percentage of ingredients must be stated. The Supreme Court of the United States said, "The constitution of the United States does not secure to any one the privilege of defrauding the public."

Mr. F. V. L. Smith, well-known to the oil mill trade has taken charge of the U. S. Ball Bearing Manufacturing Company's Atlanta office and will have his quarters at 10½ Auburn Ave., as formerly. The U. S. Ball Bearing Company manufactures the Strom bearing, which is so favorably known to users of bearings.

An expert states that, except for salt and whale oil, the South African soap industry is almost entirely dependent on imported raw materials.

DRY SEED IS SAFE SEED

You can take any green seed as soon as it is ginned, dry it in a Hess Drier to any required moisture content, cool it in the same operation, and put it in storage. It will keep safely without heating or germination until you are ready to mill it, and you will then get **more oil**, a **better quality** of oil, and there will be no loss from deterioration. Hundreds of thousands of dollars are wasted and lost every year, because of green or damp seed.

Hess Driers Will Save Every Pound, at a Cost Very Much Less Than Any So-Called Preserving Process

We make driers ranging in capacity from 10 tons per day upward, fully guaranteed as to efficiency. Owners of Hess driers have an advantage, not possessed by any other mill, in their ability to buy damp seed at their own price, and to save it without loss.

Tell us your daily requirements, and let us advise you what an installation will cost.

HESS WARMING & VENTILATING CO.
904 Tacoma Building **Chicago, Illinois**

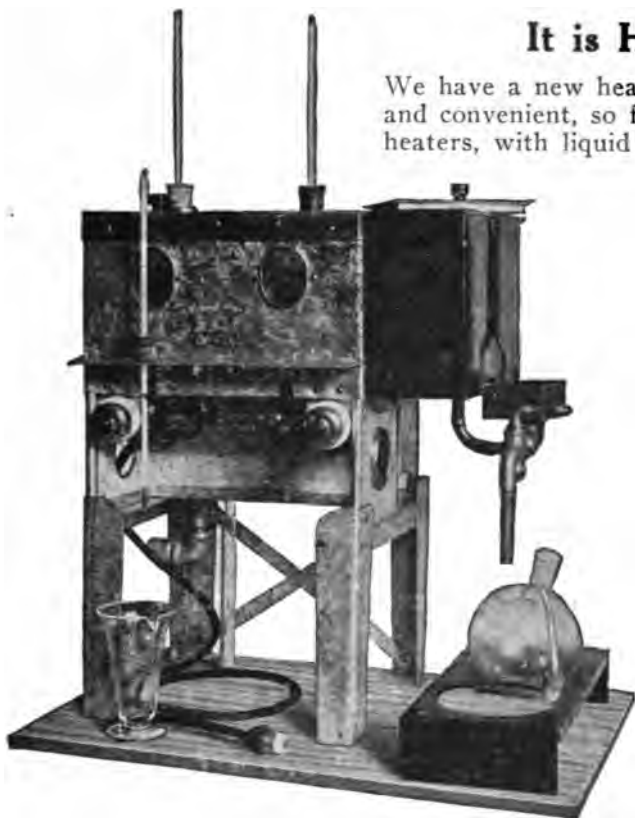
The Official BROWN-DUVEL Moisture Tester

With Glass Flasks or Copper---for Cotton Seed or Grain.

This is the standard tester prescribed in Bulletin 72, Department of Agriculture, and in the Federal Grain Rules of Inspection. In every detail it conforms to the specifications, and is of the type used in all Government grain inspection offices.

It is HEATED ELECTRICALLY

We have a new heating element, our own design, which is so simple and convenient, so free from fire hazard that it will supersede all other heaters, with liquid fuel, for testing purposes.



Its Points of Merit are:

1. **SIMPLICITY.** When a coil burns out, as all coils will, pull off the connector body; lift out the heating plate, which is then free.

Turn two screws and the burnt coil will drop out. A new one is inserted, the screws turned up, and the job is done. The element is not even taken apart for the purpose, and the expense involved is just **TEN CENTS**. No delay, no inconvenience.

2. **EASY REGULATION.** The heat is regulated just like a lamp; the turning of a thumb-nut raises or lowers the temperature just as you want it.

3. **LOW COST.** A new heater costs \$1.00; a new coil 10 cents.

4. **ADAPTED TO ANY VOLTAGE** and quickly changed from one voltage to another, such as lighting (110V) or power (220V) current, by the change of a screw.

5. **SAFER AND MORE CONVENIENT** than alcohol or gasoline, and cheaper.

The tester is made throughout of smooth steel, galvanized to prevent rust. The glassware is of the best quality obtainable and accurately calibrated. Heat and oil resisting stoppers are supplied. The thermometers are guaranteed correct.

Each tester is equipped with a strainer oil-tank, with **SELF-MEASURING FAUCET**, delivering 150 CC of oil at each discharge, which has no valves nor adjustments to get out of order and leak.

No electric tester was ever so good nor sold so low. Our prices, which include all accessories and one gallon of testing oil, are as follows, f. o. b. Chicago:

One flask	\$25.00
Two flasks	40.00
Four flasks	65.00
Six flasks	90.00

A liberal discount
for quantity orders
or for resale.

We supply gas or alcohol burners if electric current is not available.

We will equip your old tester with these new electric heaters for \$3.00 per burner, including wiring, you to pay transportation charges both ways. In sending testers to be changed over, do not send any glassware, accessories, nor water tank; just the heater body.

We carry a **COMPLETE LINE OF ACCESSORIES** for testers at lowest possible prices.

We still supply the Hess Improved Tester, with copper flasks, for gasoline, gas, alcohol or electricity.

Ask for Full Information.

HESS WARMING & VENTILATING CO.

904 Tacoma Building

Chicago, Illinois

EFFICIENCY BULLETIN.

Annual Average.

April 30, 1919.

Pessimistic? Well, let's see.

In the face of the following figures, which show the result of a bad year, in almost every respect we believe in the biggest, best year yet for our section next year. We prove that we believe in it by moving into new, ample quarters (5000 ft. of floor space) and preparing to handle more work more accurately and promptly.

The mills have proven that they can operate efficiently even under adverse conditions and will continue even more efficient work than that shown by the average extraction and separation with better seed and more of it.

Seed analyses have come to stay and the mill that does not know about his seed better watch out.

Oil losses in crude storage deterioration have been especially heavy. It does not pay to take it for granted that prime oil is being made and that it is staying prime in storage.

Cake Analysis.

	Number Samp.	Moist.	Amm.	Prot.	Oil.	Stand-ard
Avg. all Mills	4633	8.06	8.17	41.99	6.34	.78
Avg. 1914-15	2439	8.15	8.85	45.48	6.80	.78
Avg. 1915-16	3039	8.20	8.23	42.27	6.42	.78
Avg. 1916-17	6273	7.00	8.07	41.48	6.52	.81
Avg. 1917-18	4608	7.88	8.13	41.77	6.50	.80
Avg. 1918-19	4633	8.06	8.17	41.99	6.34	.78
Best Avg Result	128	8.12	7.96	40.92	5.06	.63
Worst Avg. Result	9	8.42	7.93	39.77	7.82	.98
	Number	Whole Seed	Oil in	Total	Loss per	Stand-

Hulls Analysis.

	Samp.	and Meats	C'ned Hulls	Oil	Ton Seed	ard
Avg. all Mills	1391	.07	.67	.76	.16	2.03
Avg. 1914-15	1130	.09	.68	.77	.21	2.05
Avg. 1915-16	1188	.10	.79	.79	.45	2.10
Avg. 1916-17	2421	.09	.94	1.97	.45	2.83
Avg. 1917-18	1867	.01	.98	1.16	.52	3.00
Avg. 1918-19	1391	.07	.67	.76	.16	2.03
Best Av. Res't		.00	.26	.30	.00	.80
Worst Av. Res't		.01	1.53	1.73	.98	4.61

Seed Analysis.

CALCULATED YIELD
100 LBS. WASTE.

	Samples	Moist.	Gal. Oil	Lbs. Cake	Amm.	Perot. Oil
			Per Ton	8% Amm.	in Seed	in Meats
Avg. all Mills	900	8.05	34.8	1029	4.33	16.77
Avg. 1914-15	140	9.48	35.2	1007	4.24	16.91
Avg. 1915-16	370	9.08	38.1	978	4.12	18.04
Avg. 1916-17	555	8.05	38.5	1008	4.25	18.18
Avg. 1917-18	525	7.90	36.5	1011	4.26	17.41
Avg. 1918-19	900	8.05	34.8	1029	5.33	16.77
Best Avg. Result	43	11.50	41.3	985	4.15	19.27
Worst Av. Result		8.43	29.5	1011	4.26	14.64

Oil Analysis.

	No. Samp.	Ref. Loss.	Color Red.	Free Acid
Avg. all Mills	305	10.7	8.0	2.5
Avg. 1914-15	865	8.8	6.5	1.5
Avg. 1916-16	794	9.4	6.9	2.0
Avg. 1916-17	468	7.6	7.6	1.8
Avg. 1917-18	397	8.6	7.8	2.1
Avg. 1918-19	305	10.7	8.0	2.5
Best Avg. Result		7.0	5.5	1.8
Worst Avg. Result		24.5	16.0	7.9

THE FORT WORTH LABORATORIES,

Per: F. B. Porter.

The Montezuma Mfg. Company of Montezuma, Ga., has made arrangements with E. W. Rawlings to erect a cotton-seed oil mill.

U. S. EXPORTS OF COTTONSEED OIL BY
COUNTRIES, FEBRUARY, 1919.

Cottonseed Oil.

Countries.	Pounds.	Dollars.
Belgium	112,500	25,875
France	2,182,736	349,581
Greece	20,900	4,400
Italy	1,809,867	399,994
Netherlands	12,420,000	2,763,449
Norway	1,264,127	243,480
Sweden	44,800	9,856
Turkey in Europe	15,643	3,441
England	11,870,313	1,943,540
Bermuda	769	163
British Honduras	1,426	335
Canada	977,428	173,417
Costa Rica	1,524	342
Guatemala	30,400	8,235
Honduras	2,188	575
Nicaragua	11,589	3,052
Panama	210,865	47,309
Salvador	14,365	3,746
Mexico	116,871	25,706
Miquelon	1,200	240
Newfoundland	375	90
Jamaica	51,850	12,397
Trinidad	10,425	2,577
Other Br. W. Indies	11,154	2,542
Cuba	178,107	37,247
Virgin Islands	145	36
Dutch West Indies	3,220	792
French West Indies	380	8b
Haiti	24,317	6,931
Dom. Republic	139,674	34,717
Argentina	18,750	4,250
Bolivia	100	25
Brazil	1,450	375
Chile	191,480	47,732
Colombia	17,803	4,464
British Guiana	14,991	3,267
Dutch Guiana	36,195	8,519
Peru	240	60
Venezuela	1,150	240
China	630	170
Japanese China	48	12
Chosen	2,076	570
Other Br. E. Indies	22	6
Dutch East Indies	890	269
Japan	33,170	7,307
Australia	83,601	18,327
New Zealand	18,750	5,220
Other Br. Oceania		
French Oceania	15,200	3,300
Philippine Islands	767	224
Belgian Kongo	795	289
British West Africa	21,775	5,033
French Africa	53,250	10,458

Total 32,042,282 6,224,266

REMARKABLE DEVELOPMENT IN COCONUT OIL INDUSTRY IN THE PHILLIPINES.

Where in the past the Phillipines had mainly utilized their coconut crop by turning it into copra and exporting it to Europe and to the United States, in the past two years remarkable progress has been made in the manufacture of coconut oil. According to United States consular reports two modern coconut-oil factories, of considerable capacity each, have been built and have made some progress in the industry, although not running at their full capacity.

The question now uppermost in the minds of the oil manufacturers—many of whom have already made fortunes in the industry and none of whom have lost money in operating—is apparently that of the continued supply of copra for crushing. Careful calculations based on the amount of copra hitherto exported, the number of expellers now operating, and the amount of copra required to keep these supplied, have led to the conclusion that a time will come when there will not be enough copra produced in the islands to keep all the factories in operation. There is, however, an uncertain element in the problem, namely, the expansion possible in the manufacture of copra from the nuts now actually grown, and from those to be obtained from the groves newly coming into bearing. That this element is of immense importance is evidenced by the fact that, notwithstanding the stupendous increase from 5,010,429 kilos of oil manufactured in 1913 to 45,198,415 kilos in 1917, the amount of copra exported has been apparently unaffected, having been even greater during 1917 than it was during 1913.

During 1917, eight additional corporations were formed for the establishment of coconut-oil mills, and six of these got their plants in operation, with a total of some 25 additional expellers. In the meantime the previously existing plants increased their equipment to a total of 40 expellers and 24 presses. The expansion in the industry begun during 1917 on such a large scale has since continued, and there are now about 25 firms organized for purpose of manufacturing coconut oil, nearly all of which have their machinery on the ground and in operation, making a total of approximately 150 expellers and 50 hydraulic presses actually turning out oil. In addition, there are five or six additional concerns making rapid preparation for the installation of approximately 20 more expellers. Undoubtedly the figures for 1918 will show an increase in exports of coconut oil over those of 1917 as remarkable as the increase in 1917.

SOY BEANS WILL IMPROVE THE SOIL.

Soy bean vines, pound for pound, turned into the soil, will add to the soil about the same amount of humus and nitrogen that are added by other leguminous crops, such as cowpeas, vetch, and clovers. It has been estimated that the value of fertilizer constituents contained in a crop of soy beans plowed into the soil in the green state would add to the soil fertilizing constituents to the value of \$2.50 per ton, considering the constituents at normal prices; and, as there will be 6 to 10 tons of this material produced, the value of a good crop can be appreciated. In many cases the value of humus added will be of direct value, as well as of indirect value, in that it will make conditions in the soil more favorable for plant growth. Again, the plant-food constituents contained in the soil will in many cases be enabled to exert more favorable influence in the production of the crops in rotation with the soy beans.

It may be of interest to know that approximately 80 per cent of the total fertilizing value of a crop of soy beans plowed into the soil is due to the nitrogen which it contains. If the crop has been properly inoculated with suitable bacteria to form nodules on the roots of the plants, about two-thirds to three-fourths of the nitrogen which the plant contains will have been taken from the atmosphere. When the plant is turned back into the soil, this will be added to the potential plant-food that it contains. This also will be in a readily available form as soon as decomposition has taken place.—C. B. Williams, N. C. Experiment Station.

SPRINKLE YOUR PLANT.

Perhaps there has never been an issue of The Oil Miller which was as much called for as the Fire Protection number of March. The superintendents seemed to appreciate that this was a vital subject and we hope that fires will consequently be less in the future. One way of avoiding fires is to equip with sprinkler equipment. The General Fire Extinguisher Co., of Providence, R. I., have issued a booklet on Automatic Fire Protection which should be read by every superintendent and their exhibit at the Oil Mill Superintendent's Convention should be one of the most frequented. If your mill has no sprinkler equipment, you should see to it that it is ordered now.

WANTED—Position by Oil Mill Superintendent with 18 years experience. Will guarantee results on any size mill. Address Superintendent, care Oil Miller, 1308 Empire Bldg., Atlanta.

TEXAS AND THE SOUTHWEST

Donald Lowrie, Dallas, Tex., Special Correspondent for Oil Miller

TEXAS COTTONSEED CRUSHERS CONVENTION TO BE HELD AT GALVESTON, JUNE 9-11.

The twenty-fifth annual convention of the Texas Cotton Seed Crushers' Association is to be held in Galveston, June 9-11. The rules committee, which is to study, revise and recommend rules for submission to the convention to cover the business of the coming year will meet June 6 and 7. Headquarters, and all meetings will be at the Hotel Galvez.

This will be the sixteenth annual convention of the association to be held in Galveston, and arrangements are being made for lavish entertainment following the transaction of important business. The members of the Executive Committee of the association are: J. Webb Howell, Bryan; J. A. Underwood, Honey Grove; W. B. Couch, Fort Worth; P. S. Grogan and Theodore Heyck, Houston. Mr. Howell is president of the association. Robert Gibson, of Dallas, the venerable secretary of the association, elected for life, plans to attend the convention.

TEXAS FARMERS TO PLANT SPANISH PEANUTS.

A definite movement for greater acreage in Spanish Peanuts has been instituted in East Texas, and this applies to the "black land" belt as well as to the sandy soils. The movement is also being carried forward, in somewhat less degree, in Central and South Texas. It is argued that in view of the cutting of cotton acreage, especially in sandy regions, Spanish peanuts will yield according to statistics, twice as much return as corn, and perhaps double of cotton. No field crop will return a larger investment as an average in East Texas than Spanish peanuts.

NOTES FROM THE FIELD.

The brick cotton warehouse at Bryan, Texas, containing between 1,500 and 2,000 bales of cotton, was entirely consumed by fire on April 25.

The Big Springs, Texas, Chamber of Commerce has bought a limited amount of Durango cotton seed which has been distributed throughout the country for testing. At the United States experiment farm it has made a staple $1\frac{1}{4}$ inches long. If it proves satisfactory the entire crop of the county, it is expected, will be planted to it next year.

The Industrial Transportation Company, L. H. Edwards, of Houston, president, plans to build a cottonseed oil refinery at Waco. F. J. Walker of Dallas is the architect.

A REMARKABLE ENTOMOLOGICAL ACHIEVEMENT.

Although considerable has been written about the pink bollworm which, to those unfamiliar with the deadliness of this pest, may seem more or less inconsequential, the importance of the fight against this insect which has been, and is being waged in Texas, assumes its true value when it becomes known that this pest destroys at least half of the cotton crop of Mexico every year, and once it gets a widespread foothold it is impossible to eradicate.

The latest achievement in the Texas fight has been accomplished through the efforts of Dr. W. D. Hunter, member of the Federal Horticultural Board, in charge of pink bollworm work in Texas. The fight, and the results accomplished in the Pecos Valley and the Big Bend of the Rio Grande Valley will go down in history as an example of what can be done in the extermination of this enemy of the cotton grower.

On November 29, 1918, scouts working under Dr. Hunter discovered pink bollworms in the Big Bend country, and promptly reported their find. This part of the situation did not cause so much uneasiness on the part of officials as did the probability of the insects having reached the Pecos Valley, to which section it was learned some of the cotton had been taken for ginning, and where it remained in the gin house through the winter. There was not much fear of the infestation spreading as a result of the presence of the insects in the Big Bend owing to the small acreage planted to cotton in that section and the isolation of the locality as relative to other cotton growing districts, but in the Pecos Valley cotton is grown much more extensively without the intervention of uncultivated areas as in the case of the Big Bend section.

A large force of scouts was sent to the Pecos Valley, and, as was feared, infestation was first found in the vicinity of the gin at Barstow, to which the cotton had been taken from the Big Bend. The scouting was continued in all directions from this center until the limit of the infestation was reached.

Every local laborer was employed, to which was added 700 Mexicans from El Paso, making a force totaling 1,000 men, and the work of "cleaning up" the infested area was carried forward vigorously until completed, which was accomplished in six weeks. In this period of time 4,500 acres were worked in the Pecos Valley and 500 acres in the Big Bend.

According to the men engaged in this work of extermination, a let-up of even one season would

probably spell ruin for the entire cotton growing area, not only of Texas, but of all the cotton growing states.

NON COTTON-GROWING ZONES ESTABLISHED.

On April 9, Governor Hobby of Texas issued three proclamations, effective immediately, prohibiting the growing of cotton in Brewster and Presidio Counties (Zone 5), prohibiting cotton growing in Val Verde, Kinney and Maverick counties (Zone 4), and placing a quarantine in Ward and Reeves counties, giving the Commissioner of Agriculture power to regulate the shipment of cotton and cotton seed from these two counties. These restrictions have been placed as precautions against the pink bollworm.

CASTOR BEAN GROWERS SEEK REIMBURSEMENT.

The San Antonio, Texas, Chamber of Commerce has announced intention of filing claims with the Federal Government on behalf of South Texas farmers who have suffered financial loss in growing castor beans as a strictly patriotic measure. Many farmers were induced to plant castor beans to supply a promised demand for the oil. The sudden termination of the war upset all calculations. It has been learned that the Federal Government has made funds available for reimbursement to farmers who have suffered loss through planting and raising castor beans for which they now find no market, and the action of the San Antonio Chamber of Commerce is based on the fact that such a fund has been created.

OIL, PAINT & DRUG REPORTER YEAR BOOK.

The statistics which the Oil, Paint and Drug Reporter have combined in their year book make it a very valuable reference book. It comprises complete tabular reports of Production, Distribution, and Prices of commodities, Imports and Exports in the Oil, Paint and Drug fields, as well as price comparisons of Quotations since the beginning of the War, August, 1914, to December, 1918, inclusive; and abstracts of the legislation affecting these lines, and a general resume of all markets which the Reporter represents.

"LUBRICATION OF COTTONSEED OIL MILLS."

This interesting subject is admirably treated in Bulletin No. 28 issued by the New York and New Jersey Lubricant Company, 165 Broadway. The special requirements for the different lines of shafting, as well as the special oil mill machinery are each treated separately, so that with this booklet for a guide, the best possible results from intelligent lubrication should be obtained.

EFFECT OF OIL-CAKE SHORTAGE ON MILK AND MANURE.

The Danish Government have been making some interesting experiments regarding the effect of oil cake shortage on milk and manure and Commercial Attache Thompson of Copenhagen reports as follows:

Before the war an average feed per day for a good 1,000-pound dairy cow was: Oil cake, 4 1-2 pounds; beets, 110 pounds; straw and hay 11 1-2 pounds; total, 126 pounds, containing about 31 pounds of dry matter. Such a cow would give about 25 pounds of milk per day. The average daily yield for the whole of Denmark just before the war was about 17 pounds. It is estimated that the present average is not above 10 pounds, possibly below. The whole difference is in the lack of nitrogenous feed; that is, oil cakes, as these have not been imported for the past year.

It is well known to agricultural chemists that the manurial value of excreta, both liquid and solid, is much more from cattle with nitrogenous feeds than without. Thus the cessation of oil-cake imports to Denmark is not only decreasing the milk and butter supply but is reducing the fertility of the soil.

Danish agricultural chemists have almost made up their minds to contest the present theory that the percentage of fat in cows' milk depends altogether upon the breed of the cow and not upon the character of the feed. Extensive experiments are now in progress, which seem to show that during the past year or more when Danish cattle have been deprived of their usual oil-cake rations the average fat content of all the milk of the country has declined from 3.75 to 3.5 per cent. Some curious results are developing in these experiments. For instance, a few individual dairies show an actual increase in fat percentage. All that the experiments are willing to say at this time is that radical change of feed during such an extended period has produced "abnormal" results.

Scientific Analyses Made by Agricultural College.

The following excerpt from the *Fedevaretidende*, of Copenhagen, gives the results tabulated from a series of tests conducted by Dalum Agricultural College to determine the effect of the lack of nitrogenous feed for dairy cows:

Dalum Agricultural College has made a series of analytical tests of the urine from various farms using different feeds, which clearly show that the lack of concentrated feed has a great effect on the nitrogenous contents of the urine. The results are tabulated as follows:

Kind of feed, daily.	Per cent nitrogen in urine.
Exclusive beets, hay, straw.....	.07
40 kilos beets with straw.....	.12
1-2 kilo oil cake, 45 kilos beets, 1 feed unit each	

straw and hay.....	19
50 kilos beets, 2 feed units straw.....	22
1 kilo oil cake, 2 feed units straw.....	51
Normal prewar feed.....	.6 to 1.00

Some analyses have also been made of the protein contents of the milk of Danish cows. Here it also seems that the lack of nitrogen is felt, as the protein in the milk has been going down during the war. From October, 1915, to September, 1918, milk tests made by the Dalum College showed average content 3.11 per cent of protein. In the '90s the average protein content of Danish cow's milk was 3.72 per cent, while it is now stated to be 3.3 and 3.5 per cent. This reduction in the protein content is also shown by the fact that it requires more milk now to make a kilo of cheese. Samples of milk from October, 1915, to December, 1916, show protein 3.22 per cent, and from January to December, 1917, 3.09 per cent; but from January to September 30, 1918, only 2.97 per cent.

OIL MILLING IN THE STRAITS SETTLEMENTS.

Interest in oil-milling is almost universal to-day, particularly in the tropical countries where so many oil producing products are grown. The Consular report is authority for the statement that the Straits Settlements are now a live market for oil-extracting machinery. This report advises that considerable interest is being taken in the vegetable-oil industry, particularly cocoanut, rubber seed, and castor oils. Some inquiries have been received regarding oil-extracting machinery.

Experimental plantings of castor beans are being made on some estates and on the railway right of way, which, if successful, will lead to extensive cultivation of this plant and add castor oil to the list of exportable commodities.

Rubber-seed oil having been found to be a satisfactory substitute for linseed oil, rubber estates are turning their attention to the utilization of this hitherto waste product. The industry is in an experimental state, but may become important, as there is an almost unlimited supply of raw materials; in which case there will be a good market here for oil-extracting machinery.

The English language is in general use, the people are prosperous; many are wealthy, and there is a growing demand for European and American products. This is an opportune time for the establishment and cultivation of trade relations here, as business men and the community in general are kindly disposed toward things American. This friendly feeling is strengthened by the vigorous co-operation of the United States in the war and by the prominence and favorable consideration given to American news items in the local press.

The opinion prevails that American exporters will

have better shipping and financial facilities after the war and will be in far better position than ever before to handle foreign trade. There is no fear of unfair American competition, and it is believed greater American participation in the commerce of the Orient will be generally welcomed.

Personal representation is certainly the most effective method of reaching this trade. American exporters who do not desire to work through commission houses or send out their own representatives might find joint representation in noncompeting lines profitable.

ESTIMATE OF AREAS UNDER COTTON AND PEANUTS IN ARGENTINA.

The Department of Agriculture of Argentina published the following data at the beginning of 1919, giving the governmental forecast of the areas given over to the cotton and peanut crops:

The acreage sown to peanuts and cotton is distributed in the following proportions throughout Argentine Provinces: To peanuts—Buenos Aires, 1,483 acres; Santa Fe, 37,066 acres; Cordoba, 6,178 acres; Entre Rios, 12,355 acres; Corrientes, 15,568 acres; Tucuman, 5,683 acres; Chaco and Formoso, 2,965 acres; Rioja, Júpuy, Misiones, etc., 1,606 acres; total, 82,904 acres. In cotton—Corrientes, 927 acres; Chaco and Formosa, 31,061 acres; Rioja, Júpuy, Misiones, etc., 692 acres total acreage sown, 32,680 acres.

The exports of peanuts in 1915 were 16,094 pounds; in 1916, 71,099 pounds. The bad crop for the year 1917 reduced the exportation to 36,057 pounds.

The manufacturers of oils declared that the past crop had been very abundant, and that the great demand for oils for domestic consumption and for exportation had allowed good prices to be paid to the farmer before it was realized that the exportation of these oils would be prohibited.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of The Oil Miller, Published Monthly at Atlanta, Ga., for April, STATE OF GEORGIA—County of Fulton—ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Mary R. Burruss, who, having been duly sworn according to law, deposes and says that she is the owner of The Oil Miller and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the editor, managing editor and business managers are: Editor, Katherine G. Birmingham, Empire Bldg., Atlanta, Ga.; Managing Editor, Mary R. Burruss; Business Manager, same.

2. That the owners are (give names and addresses of individuals, or, if a corporation, give its name and the names and addresses of stockholders owning or hold 1 per cent or more of the total amount of stock—: Mary R. Burruss.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are (if there are none, so state): None.

MARY R. BURRUSS, Owner.

Sworn to and subscribed before me this 29th day of March, 1919.
W. A. JONES, N. P., Fulton Co., Ga.
(My commission expires April 14, 1920.)

NEW SEED OIL FROM COCKLE BURR

Raleigh, N. C., May 5.—(Special.)—Out of the cockle burr which sticks to the clothes of the passerby, and which has generally been considered a pest, is now being made a new and valuable oil available for use in paints and varnishes and adapted for food.

The details were explained by Mr. L. B. Rhodes, oil chemist of the North Carolina Department of Agriculture, in an address delivered here May 3 before the North Carolina Section of the American Chemical Society.

"The cockle burr," said Mr. Rhodes, "is widely distributed through the United States, so that it is more or less of a nuisance in most localities, and is very abundant throughout the South. If the burrs could be obtained systematically in sufficiently large quantities, they could be easily milled.

"Those which I have gathered were either dry or in a half-dry condition. They were first cut in half by a trimming board and the kernels mashed. They were then placed in a box and vigorously shaken. The hulls were taken out, leaving the kernels at the bottom. These kernels were then pounded and rubbed in a mortar until the black shucks were removed, after which the husks were forced out by blowing. The ground kernels were then wrapped in cheesecloth and pressed between cold steel plates.

"The oil thus obtained was allowed to settle for three or four days and then filtered. It is of a light yellow shade; has a clear, sparkling appearance and a pleasant odor and an agreeable nutty taste. It keeps well without becoming rancid. On account of this quality it should eventually be used as a substitute in the dietary for other vegetable oils.

The press cake left after expressing the oil should be of value as a good for cattle, and certainly it can be readily used as a fertilizer."

Mr. Rhodes said that he had no doubt that before long the cockle burr oil would have a place in commerce because of the richness of the kernel and the ease with which the oil can be extracted. The yield from the kernel is about 30 per cent., and the kernels constitute about the same proportion of the bulk of the crude burrs. The press cake contains 40.34 per cent. of protein.—Manufacturers Record.

**THE PEANUT AND PEANUT OIL INDUSTRY
MENACED BY THE ORIENT.**

The peanut industry, which was becoming a big factor in the agricultural life of the South, and the peanut oil business, one of the growing activities in this section, are seriously threatened by the heavy importations of peanut and of peanut oil from the Orient.

The United States Department of Agriculture has just issued a report showing that during 1918 this

country imported from the Orient, and mainly from Japan, 68,281,006 pounds of peanuts as compared with 10,366,569 pounds in 1913. The Department calls attention to the fact that rumors of large importations of Oriental peanuts during the past winter caused considerable alarm in the producing districts, but it expresses the thought that the supply in the East is not large and that Europe will again become a large importer of peanuts from the Orient. However, it adds:

"Recent developments in the trade in raw materials will seem to indicate that Japanese merchants may try to control the markets in order to maintain and protect the vegetable oil industry, which underwent a prodigious growth in Japan during the war and may prove difficult to continue successfully under peace conditions. Kobe already is considered the probable market of the Orient for vegetable oils, and it may be the purpose of the Japanese to make this market the clearing-house also for large quantities of the raw materials, including peanuts, which are used in the production of vegetable oil. * * *

"While importation of peanuts for this season may not exceed pre-war figures, the growth of the vegetable oil industry throughout the Orient and the consequent encouragement for the production of raw materials are actively to be reckoned with in the future by both dealers and producers."

During the last few years the peanut industry has been growing very rapidly in this country. In many parts of the South it was becoming a staple crop, taking the place of cotton in the boll-weevil sections. The production of peanuts has been furnishing the basis for a thriving oil industry, but the prospect of the peanut growers of the South and of the peanut oil producers is now seriously endangered by the heavy development of importations of peanuts and peanut oil from Japan, China and India. The South will thus soon face the acute situation of deciding whether it will be willing to see this thriving industry destroyed and the peanut growers impoverished through the importation of peanuts raised by the cheap labor of China and Japan, or whether it will demand a protective tariff on peanuts and on vegetable oils sufficient to continue the prosperity of these vitally important industries. Had we entered the League of Nations as proposed, Japan might have had the right to vote as to whether we could put a protective tariff on anything or whether we could protect ourselves from Japanese and Chinese immigration or the importation of Japanese and Chinese products without limit. We wonder how many of the people who are upholding the covenant of the League of Nations as first proposed recognize the wide ramifications of its possibilities for harm to America and its interests.—Manufacturers Record.

VIRGIN PEANUT OIL AVAILABLE.

Virgin peanut oil of domestic manufacture is on the market for the first time in considerable quantities. It is one of the most delicious of oils, especially fine in flavor and, in the opinion of many consumers, equal in every way to the best olive oil. The bulk of the peanut oil that has been available was hot-pressed oil. The virgin oil is cold-pressed and no refining is required. The United States Department of Agriculture during the past two years has stimulated the production of virgin peanut oil, and specialists of the department have co-operated closely with producers.

The virgin peanut oil, home-made from a home product, will come in competition with foreign oils. About 98 per cent of the olive oil consumed in the United States is imported. Olives are grown in California, but the bulk of the product goes to meet demands for olives in forms other than oil. Department experts believe that virgin peanut oil, once the American people familiar with it, will be as popular as any table oil thus far generally used.

Among the vegetable oils, that made from cottonseed stands in a class by itself with respect to its production in this country. In 1912 it constituted 73 per cent, and in 1917, when the cotton crop was unusually short, 61 per cent of the total production.

Although olive oil as a food and medicinal oil can be replaced very largely by other vegetable oils, there are one or two technical uses, wool spinning, for instance, for which no entirely satisfactory substitute has yet been found.

ENGINEER in navy, about to be discharged, desires position as engineer or assistant engineer. Thorough understanding of gas and steam engines. Will consider \$150.00 per month. Address U. S. 2, care of AFLOAT AND ASHORE, Charleston, S. C.

DISCHARGED SOLDIER wants position—experienced in general office work, also have some salesman experience. All references. Roy E. Demmard, 67 E. North Ave., Atlanta, Ga.

POSITION WANTED—Fireman, experienced on high and low pressure boilers, can furnish best of references. Address "Fireman," in care of "Forward" City Y. M. C. A., Montgomery, Ala.

EXPERT COST MAN—Wants a position in cost department of some good manufacturing concern which can offer a future. Address "H", care of "The Marine," Paris Island, S. C.

SALESMAN OR CLERK—Served in army 19 years and has honorable discharge. Good habits, splendid personality. Address "Home Tires" Employment Dept., Fort Morgan, Ala.

SITUATION WANTED—By young soldier, just back from France. My left arm was lost in the Argonne Forest but still have my good right arm and can do something. Will receive a discharge in about a month. Answer, M.Z.-1, Care SERVICE RECORD, Ft. McPherson, Ga.

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SITUATION WANTED—I have received my discharge from the army and it is necessary for me to find employment. Have had five years' experience in retail business, but will consider other lines. What have you to offer? Address "Navy, care TRENCH AND CAMP, Lakeland, Fla.

WANTED by soldier just returned from overseas who will be discharged from Ft. McPherson general hospital shortly, position with good firm in or out of Atlanta. Out of city preferred. Capable and experienced stenographer and general office man. Quick to adapt myself to new work and believe would make good salesman or good on any other work. Married. Age 27 years. Answer at once. Leon H. Feagin, 310 Ashby St., Atlanta, Ga.

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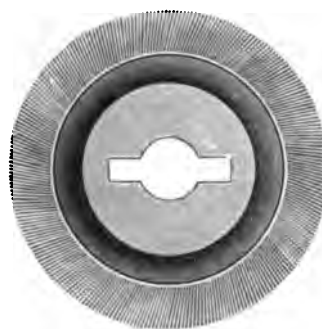
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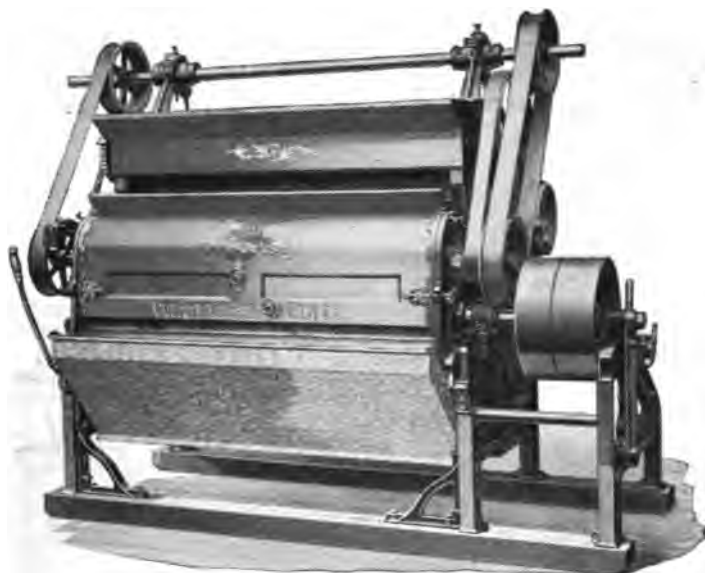
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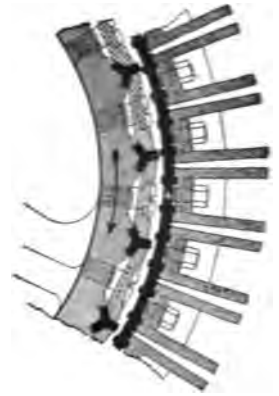


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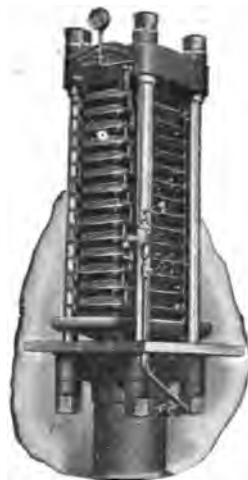
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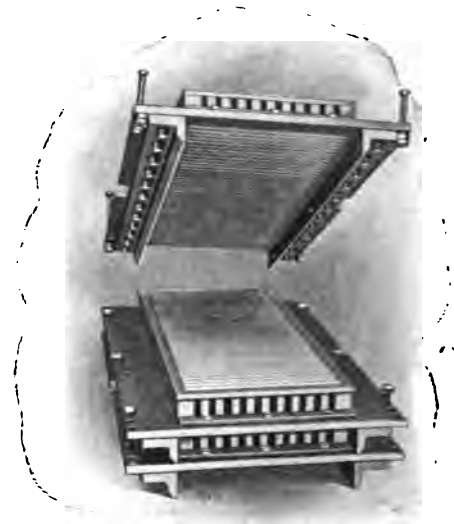
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Conveying and Transmission Machinery.

Conveyor and Appurtenances.
Sprockets and Chain
Perforated Metal,
Huller and Meal Mill Plates,

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Hydraulic Presses
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Supreme in Oil Mill Service!

Over 350 Oil Mills, in the Southeastern States alone, use Scandinavia Belting.

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Owing to the reduction of stocks incident to placing Leviathan-Anaconda on a peace basis, it is possible for today to purchase these belts at a price about equivalent to that of ordinary belts. Usually Leviathan-Anaconda prices are about 75% above these belts.

This price is about 25% under standard grades of rubber belting, whereas ordinarily Leviathan-Anaconda brings 10% in excess of rubber prices.

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Leviathan-Anaconda are the standard belts for heavy duty. Under ordinary circumstances you pay higher for them at the start but they cost you less.

We can tell you why 90% of belts GIVE out instead of wear out.

We can show you why a belt built as Leviathan is built carries its load at the lowest cost.

We can give scientific reasons for the records of Leviathan.

This is an opportunity which will be recognized by every live superintendent in the Country. Write for particulars.



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Are you Satisfied with your Belting?
Is it giving the Service it should?
It will Pay you to Investigate



36-38 West Alabama St.

S A W Y E R

Stitched Canvas Belting made of Highest
Quality Cotton Duck.

M A R C O

Highest Quality possible to produce in
Rubber Belting.

LEATHER BELTING — Best Grade.

ALSO complete stock of Elevating, Conveying and
Power Transmission Machinery. Ginners and Oil Mill
Supplies. Feed Grinders, Gasoline Engines, Electric
Motors. Velvet Bean Hullers. Machine Shop and Foundry
Equipment. Quotations cheerfully given.

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Machinery and Mill Supplies

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Oil Mill Machinery and Supplies

Everything from Foundation
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BAUER BROS. CO.
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Made New by our Process; send them to us. By
doing this your belt will last twice as long and will
transmit 33 1-3 per cent more power.

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BELTING
1 to 48 in.

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Analytical and Consulting Chemists.

Specialties :

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Fuel and Water.

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Experienced Hands Demand the Jenkins "Diamond Mark"



The Jenkins "Diamond," the distinguishing mark of unvarying service is on the body of all Jenkins Valves—Brass, Iron and Cast Steel. These include types and sizes to meet all requirements: Globe, Angle, Cross, Check, Combination Stop and Check, Blow Off, Whistle and Gate Valves in stationary or traveling spindle patterns.

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"EDGE-CUT" GUMMERS

Were first introduced by us to the Oil Mill trade about three years ago. They presented a NEW IDEA and immediately SET A NEW STANDARD, toward which competition has been working—more or less vainly—ever since. The new idea was that a Gummer File should cut on its edge, so as to DEEPEN the teeth as well as on the sides to SHARPEN them. Ordinary Gummer Files, having only mere rudimentary and "accidental" teeth on their edges (which soon wore slick), would file the sides and the points of the teeth and shorten them down to little stubs, but the SLICK EDGE of the file would skate along in the throat without lengthening or gumming the teeth to any appreciable extent. REAL GUMMING requires real file-teeth on the edge of the Gummer—CUT TEETH, not rolled or milled.

That's the Secret of the "EDGE-CUT" idea. It's not all of the secret, by any means, but the balance is merely in the expert and conscientious workmanship and the high-grade, high-carbon tool-steel which we use—both very expensive, but worth every cent they cost. ANOTHER THING is an element of their excellence and is as old as the art of file-making itself—that is, that real, sure-enough, honest TEETH are CUT on the edges. All file teeth always have been and always should be CUT with a chisel, and we GUARANTEE THAT OURS ARE NOT MILLED OR ROLLED ON.

The A. A. WOOD & SONS CO., Manufacturers, ATLANTA, GA.

FOR SALE.

Cotton seed oil mill machinery for a five press mill complete, including power plant. Twelve of the eighteen linters have never been operated. Other machinery is in good operating condition. A bargain for quick trade.

GEO. H. WALKER,
P. O. Box 1424, Muskogee, Okla.



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Attractive Prices—Efficient Service.

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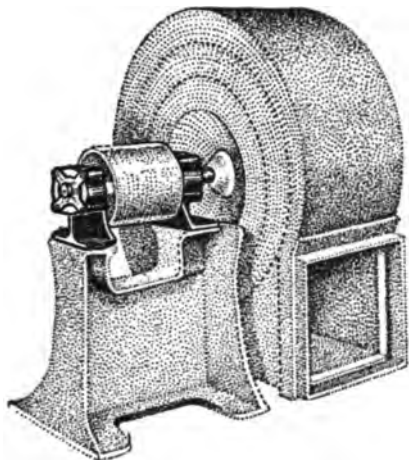
COTTON SEED PRODUCTS.
Agents for J. T. Perkins Co. C. H. Press Cloth.
Seed, Meal and Cake Bags. Full Line of Mill Twines
Always on Hand.

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Replace
Your Plain Babbited Bearings
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S. K. F. BALL BEARINGS



FAN EQUIPPED WITH BALL BEARINGS

Replacement easily and quickly made. Results saving in power, lubrication, time, attention. No interruptions or shut-downs. Great saving in fan belts. Full instructions for applying shipped with bearings.

If interested please fill in as below and mail to us.

INFORMATION

NECESSARY FOR EQUIPPING FANS WITH
BALL BEARINGS

Make of Fan
Diameter of Fan Diameter Fan Shaft.....
Center of Shaft to Bearing Base on Pedestal.....
Size and Number of Bolts in Bearing Base
Bolt Spacing on Bearing Base
Remarks:

Bailey-Burruss Mfg. Company

ELEVATING, CONVEYING, TRANSMISSION, Etc.
OIL MILL MACHINERY.

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"SALEM" (SALEM MADE) BUCKETS

Have Quality, Capacity, Easy Fill,
Clean Delivery and Endurance.



Know them by the Originator's address in a circle on the front. Insist on this stamp.

Sold by all Dealers and from our factory; let us mail our list and discounts.

We ship Regular buckets at sight of order and are exceptionally equipped to make up heavy buckets to order. Let us quote prices on anything in the bucket line.

The W. J. Clark Company
SALEM, OHIO.

Please mention this paper.

All Farm Products will Remain High for Years to Come.

Just Think of it!

Short Cotton at 30c lbs.
Long Cotton at 75c lb.
Cotton Seed at \$85.00 ton
Peanuts at \$125.00 ton
Corn at \$2.00 bu.
Live Hogs at 18c lb.
Syrup at \$1.00 gal.

Why not buy a small farm in South Georgia and work it yourself. One crop, at half the prices for the above products, will pay for it.

Spend the winter clearing a few acres. One man can clear one acre a day, average new cut over land along the A. B. & A. Railway.

South Georgia lands are cheap. Now is the time to buy.

For list of farms for sale and other information, ask

W. W. CROXTON, G. P. A.

A. B. & A. RAILWAY,
ATLANTA, GA.

THINK IT OVER

The underwriter will not insure against loss of profits on damp cottonseed no matter what premium you agree to pay. The risk is too precarious. Then as a hard-headed business man, how can you justify taking chances?



Don't you think the level headed thing to do is to purchase an apparatus which will prove the means of protecting you absolutely against loss of profits which continually stare you in the face? An ELLIS COTTON SEED DRIER will do it.

THINK IT OVER.

100 Ton Self-contained Drier.

WE ALSO MANUFACTURE DRIERS FOR GRAIN, RICE, BEANS, PEANUTS AND MEAL

THE ELLIS DRIER COMPANY, Chicago, Illinois

It's a Paying Investment

to buy **Jewell Chrome Leather Belt**. The first cost may be higher than that of other beltings, but the longer life of this belt under severe strain and adverse conditions has proved to the oil mill men who have used it that it is the most economical belt they have used. The tensile strength of the **Jewell Chrome Leather Belt** is very much greater than that of first class oak tanned leather belt. Because of its flexibility it gives greater pulley contact than any other belt, and transmits more power with less slip than any other leather belt. It is waterproof, steamproof and oil-proof.

The **Jewell Chrome Leather Belt** is not an experiment. It has been on the market over fifteen years and has demonstrated beyond a doubt its superiority over other kinds of beltings.

Try it on your linters, on your fans or any other place where you really need a good belt. You will be satisfied.

Any of the jobbers listed below can supply you.

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JEWELL BELTING COMPANY

Tanners and Manufacturers of Oak Belting, Chrome Belting and Lace Leather.

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Beck & Gregg Hardware Co., Atlanta, Ga.

Albany Mill Supply Co., Albany, Ga.
Young & Vann Supply Co., Birmingham, Ala.
Towner & Co., Memphis, Tenn.
Central Supply Co., Little Rock, Ark.
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How Many of these Machines Does Your Oil Mill Require?



Men are machines in the manufacture of oil.

Figure what the permanent value of your press room laborers would be if you paid for them outright as you do your machinery.

A "Man Machine" working with the regularity of a mechanical device would be worth at least \$400 for the season or 10% on a \$4000 investment.

A three press hydraulic mill requires 8 men (2 shifts) in the press room each 24 hour day or the equivalent of a \$32,000 investment over and above the original cost of the machinery.

ONLY 2 MEN ARE NEEDED IN AN EXPELLER MILL OF EQUAL CAPACITY or the equivalent of an investment of \$8000.

AN EXPELLER EQUIPMENT (equal in capacity to a three press hydraulic mill) GIVES YOU AN INSTALLATION REPRESENTING AN ADDITIONAL VALUE OF \$24,000 IN "MAN MACHINERY."

When the three shift plan is adopted the additional value will be \$36,000.

Efficient Mills are Expeller Mills

BURRUSS ENGINEERING COMPANY

Sales Agent for the Anderson Expeller

Empire Building

Atlanta, Georgia

What Do You Pay for Press Cloth Each Season?

INVOICE	
CAMELS HAIR PRESS CLOTH Co. New York	
DATE	2/6/1919
SOLD TO	Hydraulic Oil Mill Co. Mill Town N.S.A.
TERMS	Cash
1 Roll 350# Camels hair press cloth @ \$20 per lb.	
\$4 20 00	

This kind of an invoice is common, but what would you pay for a set of cloths that would last as long as your press?

Figure:—Working 1500 tons a season at 25 cts. per ton of seed worked, the press cloth expense is more than \$375.00 for one press one season—over \$1000.00 for a three press mill, or 10% on \$10,000.00.

For a three press mill a \$10,000 investment would be profitable to secure a set of cloths that would last as long as your presses.

AN EXPELLER MILL USES NO PRESS CLOTH.

For this reason alone an expeller press room equipment of equal capacity is worth \$10,000.00 more than a three press hydraulic equipment.

Economical Mills are Expeller Mills.

BURRUSS ENGINEERING COMPANY

Sales Agent for the Anderson Expeller

Empire Bldg.

Atlanta, Ga.

Second Day.**Thursday, June 5th, 10:00 A. M.**

Address—E. T. Allen, Division Mgr., Union Seed & Fertilizer Co., subject: Relation of Managers to Superintendents.

Address—Mr. Geo. C. Spiers, Atlanta, Ga., subject: Linters.

Address—S. W. Shelley, Charleston, S. C., subject: Peanut Oil.

Friday, June 6th, 10:00 A. M.

Address—J. W. Coon, Sanford, N. C., subject: The Oil Mill Industry of Tomorrow.

Election of Officers for Ensuing Year.

The election of officers resulted in the appointment of President P. H. Morgan, Ozark, Ala.; Vice-President, F. C. Rymes, Athens, Ga.; Secretary-Treasurer, Starr W. Shelley, Charleston, S. C.

The place of next year's meeting was turned over to the executive committee for future action in conjunction with the executive committee of the Oil Mill Superintendents' Exhibitors Association.

OIL MILL EFFICIENCY.

With the removal of government control, the oil mills are thrown back on a competitive basis. While the mills are thoroughly capable of taking care of themselves under normal competitive conditions, the present high prices introduce new factors which will require the careful attention of the mills if they are not to operate at a loss. With October crude opening at 20 cents per pound and high operating costs the mills will have to figure closely as to how much they can afford to pay for seed. In the past, the mills in buying seed have, in a great many instances, bought seed at a price in excess of its value as shown by the value of products, depending upon an increase in value of products to make a profit. The question is, can there be much more increase in the price of oil. All of these considerations lead to the conclusion that efficient oil milling will be necessary more than ever, and that any profits made will be mainly due to efficient operation and not to speculative buying.

The first consideration in efficient milling is the quality of the seed. With prospects of seed costing between four cents and five cents a pound it is very essential that the mills know how much oil the seed contains. A single sample of seed from a gin will not be representative of that gin's production. Frequent analyses are necessary to show variations as the season progresses.

It is surprising how little attention some mills pay to separation losses. Some mills send in daily sample of cake, watching their extraction and protein very carefully but pay absolutely no attention to oil in hulls. They figure that the absence of uncut seed and unseparated meats indicates good separation. They overlook the important fact that there can be a variation of 1% in oil content of hulls without the difference being discernable to the eye. This difference of 1% would mean a preventable loss of 90 cents per ton of seed. The efficient mill knows that no oil is being lost through hulls, it does not depend upon a visual inspection.

The methods of cooking meats are numerous. The fact that oil in cake we analyzed this past season varied from 4½% to 9% shows that some methods of cooking are not as good as others. This difference of 4½% between good and bad press room work means in actual dollars and cents, \$8 per ton of seed. A little experimenting through the season by mills showing more than 5% oil in cake would pay big dividends. Vary stem pressure on cookers, amount of water added cooking times. See that steam traps are working properly; also cake former. Are you sure that the pressure gauges on the presses register properly? The success or failure of oil milling this coming season will rest mainly in the press room. Constant attention to details are necessary to insure success.

The mills this season had a severe lesson regarding selling off oils. Those with badly off oils had considerable difficulty finding buyers. With a basis price contract in the rules specifying a limit of -6 red, the refiners are going to be able to separate crude oil into three classes. The mill producing oil which refines darker than 16 red will have a hard time disposing of their oil. Heretofore, the refiners had no means of knowing what kind of oil would be delivered on a basis prime contract and they had to take anything. Now they have a limit specified as to what they must take. Clean storage tanks are essential for keeping oil prime. The oil line for the storage tanks should be blown out with steam when the mill is shut down at the end of the season. At many mills, the first car of oil is spoiled by the oil left in the line to the storage tank. The quality of oil going to storage tanks should be known and oil in storage should be regularly tested. Mills lose money by shipping prime oil on a basis prime contract, when they have both kinds of oil in storage.

In conclusion, we wish to emphasize the fact that knowledge of what you are doing and not guesswork is what will make the difference this season between profit and loss.

THE FORT WORTH LABORATORIES,
F. B. Porter, Vice-President.

**BIG MEETING OF OKLAHOMA COTTON SEED
CRUSHERS' ASSOCIATION HELD IN
OKLAHOMA CITY, MAY 12TH.**

Reported by Mrs. J. M. English.

Tenth annual meeting of the Oklahoma Cotton Seed Crushers' Association was called to order by President W. F. Pendleton at 10:00 a. m., Monday, May 12th, at the Lee-Huckins Hotel in Oklahoma City, showing an almost one hundred per cent attendance, both active and associate members, and a number of visitors.

Mrs. J. M. English opened the session with prayer, invoking Divine Guidance in the conduct of the meeting, and offering thanks for the privilege of passing into the new era of peace.

Roll call by mill was responded to by the name or names of representatives present. Because of the lack of time the reading of minutes of previous meetings was dispensed with. We had no new members to introduce, as we diligently worked earlier in the season to induce all who would to be with us, acting upon the request of the food Administration, and all who were willing to affiliate with the Association did so, hence all were old members before the annual meeting.

The address of the president was mainly an expression of appreciation of the manner in which the members stood behind him in his ministration of Association matters during the past year; of the loyalty with which the entire membership upheld the Government's every move, even when they had to take a loss by so doing. He also gave a resume of the various meetings with the Food Administration (State and National) and the most often disappointing results, but wound up as follows: "Let us forget the disappointments of the past, rejoice in our part in winning the World War, conscious of the fact that we did our duty, and look forward to a new era of prosperity, keeping in mind that we have new problems to face, but with the determination to aid and assist the incoming administration to round up next season's operations with the best year in our history." This address was greatly applauded, and the members pledged themselves to loyalty to his successor.

Secretary-Treasurer's report showed a working balance in bank, and was found to be correctly and well kept by the auditing Committee, consisting of Messrs. A. S. Roberts, C. Barksdale and W. F. Lindsay.

The Arbitration Committee reported no arbitration during the past season. There were also no grievances to report. The Rules Committee suggested that if anyone had any suggestions to make to at once forward them to Mr. J. H. DuBose for consideration at the Rules Committee meeting in New Orleans on the 16th and 17th. The Chairman of the Legislative Committee was absent and no

report received; however, there had been considerable adverse legislation attempted during the past season.

Mr. R. E. Montgomery, president, Interstate Cotton Seed Crushers' Association—an old Oklahoman, though now Texan—delivered the address of the morning, taking for his "text", "My Experiences, and those of Others, in Washington During the Past Six or Eight Months," giving a general resume of the work the various committees had performed, and dwelling especially on conditions since the signing of the armistice and the linter situation.

We well knew the committees had a great work to perform, and many complex conditions to meet, but hardly realized the amount of "red-tape" and persistent effort that had been put forth to get us even the concessions we have gotten, and we were glad to be told of our obligation to these men. This led to many questions being asked and answered, and a general discussion of the present status of oil mill affairs.

Upon motion of Mr. Vose, that we express our thanks and appreciation to the Sub-Committee of the War Service Committee, the following resolutions were drafted and forwarded to the Interstate Cotton Seed Crushers' Convention for reading:

"Whereas, There was a great need for co-operation between all lines of associated business during the past years; and

"Whereas, The Interstate Cotton Seed Crushers' Association, through its Washington office, threw itself into the work and became a member of the War Service Committee, assuming and discharging the services that were due to be performed by our own line of business; and

"Whereas, Because of the cessation of hostilities the Government cancelled its linter contract, and announced its intention of making new supplemental contracts, thereby necessitating a "linter pool" sub-committee to look after the interests of the oil mills of the various states in securing such supplemental contracts; therefore, be it

Resolved, That the thanks of the Oklahoma Cotton Seed Crushers' Association be extended to Messrs R. E. Montgomery, J. J. Lawton, and G. W. Covington for the faithful effort they have made, as members of the sub-committee representing us in the linter pool settlement, and securing supplemental contracts; and be it further

"Resolved, That the thanks of the Oklahoma Cotton Seed Crushers be also extended to Hon. L. N. Geldert, and all other Interstate Association members, who have so valiently labored for the good of our industry.

(Signed) C. L. Widney.
W. E. Ambrister.
A. L. Thornton.
Committee."

Mr. R. A. Vose gave a short talk on the fuel situation and suggested that the mills anticipate their wants for the season, and try to place their orders through the Association Secretary's office; also suggested that the mills put such brokerage business through the office as they can, in order to help meet the expenses of the office, and take care of our educational campaign.

The meeting was then adjourned for luncheon, to meet at 2:00 p. m.

2:00 P. M.—We should have named the Hon. J. A. Whitehurst's address, "Little Gray Home in the West," for after giving his report concerning the organization of the Cotton Export Selling Corporation" he launched into the relation between the farmer and the business man—as it should be, stressing especially the need for co-operation between the two, and the good in it for both. To use his exact words, "As Cottonseed crushers, you are interested in the farmer getting a just compensation for his labor as a cotton grower, because the time has come if he does not get it there is going to be some trouble, one way or the other; he may quit raising it, or become a Bolshevik. He is a different man today; he was very patient in the past and satisfied if at the end of a year he could buy his wife a new calico dress, but not so today."

Mr. Whitehurst closed his address with a plea for an opportunity for the farmer to make for himself a home, reducing the number of renters and drifters from place to place. He said, of course, there are always some who did not care to be more than renters, or drifters from place to place, in whom all ambition was dead, but to at least meet the fellow half way who has the ambition to make a home for himself and family. What we need is a co-operation between the farmer and business man, a close getting together and mingling, visiting, giving and accepting hospitality. Here he drew a picture of an inviting farm home, surrounded by flowers and a good lawn, happy children and contented men and women, and issued an invitation that when passing we smelled the rich aroma of frying ham, and could visualize the newly laid country eggs, pure honey and hot biscuits accompanying it, to invite ourselves in, make ourselves at home, and just generally enjoy it. (Laughter, but you could see how much it appealed to every man in the audience.)

Mr. Whitehurst is greatly interested in today's "Own your own home" campaign, and he says it is a great moral uplift to any man to own his own home, but that it is even more necessary that the farmer own a piece of land—if only a few acres—that he can call his own, for the red flag will never fly before the home of man—whether in the city or the country—when he knows it is his own.

This talk was so earnestly given, and so full of the spirit of patriotism and desire for right living that has been brought home to us during the past

several years, that the audience gave its appreciation to Mr. Whitehurst by standing vote, and a great deal of applause. We do not dwell on the original subject of this discourse, as since then the terms of the new organization have been worked out just as he gave them to us.

Prof. L. A. Fitz, Kansas A. & M. College Food & Feeds Department, Manhattan, Kansas, had for his subject "Problems in Buying and Selling Cotton Seed Cake and Meal," and went into detail on the rules governing the handling of cottonseed products in his state. There were several points on which he touched showing the violation of state rules by shippers of these products, and some of them were merited; however, because of the conflict between Kansas State and Interstate Laws, also a clashing of Interstate Cottonseed rules with Kansas Feed Rules, especially covering weights, i. e., Federal laws allow shipment of 100 lbs. gross, or 99 lbs. net, while Kansas State laws demand 100 lbs. net. Interstate Crushers' Rules also allow a 99 lb. net shipment, and it would mean that shipments into Kansas are on a basis by themselves, and in conflict with rules covering other states, working against Kansas shipments, and Oklahoma is the natural territory for manufacturing cottonseed products for Kansas consumption.

The above resulted in a committee composed of Messrs. C. L. Widney, George H. Walker, and A. G. Eakins, together with our secretary, Mr. J. M. Aydelotte, being appointed to confer with Messrs Fitz & Ainsworthy, of the Kansas A. & M. Department, Foods and Feeds Division, and Mr. Whitehurst, Chairman, Oklahoma Board of Agriculture, and Mr. A. J. Hargrave, State Feed Inspector, of the same Board, to work out a basis on which both Oklahoma and Kansas can work, and it is believed that if all parties strive to do the fair and right it should be easy to establish a harmonious relationship between the mills and feeders in both states, and satisfactory to all.

It was impossible for Mr. James A. Wilson, Director of Extension of the Oklahoma A. & M. College, to be with us, and his assistant, Mr. W. D. Bentley appeared in his stead, talking on the results of our educational campaign through their department, and giving an abridged history of our former "Winners" of the scholarships. Mr. Bentley's coming was especially interesting, inasmuch as he was the originator of the scholarship premium plan. We originally gave a trip to Washington to the winner, but after several years one of the winners asked to be allowed to apply the amount to a year's scholarship, and under Mr. Bentley's advice we changed the premium, and have been making it a scholarship ever since. Mr. E. B. Shotwell, in charge of the Boys' Clubs, was also present, giving a report of the work done during the past season, and the record of our "Winner" for 1918-19, Mr. Albert Clark, of Tecumseh, Okla.

H. M. Scott, Mgr., Linter Department of the Chickasha Cotton Oil Co., addressed the members on the subject of "Linters," citing some of the troubles that have come into the oil mill man's life, and the condition of the market that was supposed to have absorbed this season's output—and will not. Oklahoma is not meeting with the encouragement necessary to dispose of its stocks before the end of the contract period. The mattress manufacturers are well stocked in the west with linters and substitutes, and to all appearances to the end of the contract period. High freight rates are also a factor against our shipment of linters to the east.

Under "Open Session—Members and Visitors," we heard from Messrs R. E. Lilliard, Ft. Smith, Ark.; R. W. Fort, Dallas, Tex., and R. E. Collins, Paris, Texas, the two latter on the "Two Per Cent Tax on Premiums Covering Insurance Written Outside of the State," and a general discussion followed this.

This concluded the business session of the meeting.

At 6:30 about 75 attended the banquet at the Lee-Huckins Hotel. Mr. W. R. Burnaby, recently returned to Wilson & Company as buyer, talked on the relations existing between the buyer and seller of crude oil, and the problems in trade. His talk was very much appreciated, and he was heartily welcomed to Oklahoma.

Albert Clark, Tecumseh, Okla., 1919 Scholarship winner and honor guest, was introduced and called on for a talk. This seventeen year old boy told of his striving for five consecutive years to make this goal, but that the first two were a series of disappointments, however, because of the encouragement given by father and mother, he stuck to it; finally winning a small club prize the third year, the fourth coming in for several honors and some money, and finally winning the scholarship, with over \$250.00 net gain in profit on his acre and premiums taken at fairs, bringing his total above \$400.00. This boy will make a success of his college work, and one of our members intimated that if for any reason he needed help in his second term, he would be willing to extend it.

While on this subject, since the beginning of the Cotton Club Scholarship move, there have been other lines of business adopting the same plan; the Wheat and Corn Clubs are being financed by the grain men, and the Pig Club by the bankers, and there is also a move on foot to more fully organize the Baby Beef clubs. This kind of work among the coming generation of "farmers" will eliminate the need for pleas for help to enable the farmer to own his home; these boys will co-operate for the very love of it, and be able to hold their own.

Hon. Campbell Russell, Corporation Commissioner, one of the big men of this state in all but stature, responded with a talk, covering mainly the

education of the young, starting him in life equipped to fight his battles, and to improve his condition, and dwelling particularly upon the co-operation between the men and boys, and teaching and practicing upright and clean dealing between all men.

Hon. S. P. Freeling closed the program by an unusually uplifting and patriotic address, imploring that all men do their duty to uphold and preserve the Democracy so valiently fought for by our boys in the trenches; impressing upon the hearts of the listeners that the boys must not come back to the United States and have their ideals shattered. They have dreamed big dreams, and we must do our utmost to help them realize them; that we have entered a new era of helpfulness, and that the greatest element entering into these new conditions is love of our fellow man, and the establishment of a real brotherhood.

Summing up the impressions of the whole program, it was rather a victory meeting; a greeting of old friends and the making of new; a setting of a new standard and a desire for greater co-operation between all men and classes; a new desire to live and let live, and the writer believes that all who attended this meeting were impressed with the same facts.

Mr. A. L. Thornton, last year's vice president, asked that his name be not considered for the presidency for this season, feeling that he could not accept at this time. Mr. C. L. Widney, Chickasha, Okla., was elected president; Mr. W. F. Lindsay, Ardmore, vice president, and Mr. J. M. Aydelotte, secretary-treasurer; all elected by the solid vote of the Association Members.

It is with regret that we announce the death of Frank A. Shea, of the oil department of J. C. Francesconi & Co., New York. Mr. Shea's death will occasion a number of changes in the organization. Mr. M. E. Austin, formerly manager of the Chicago office, has been transferred to the Home Office at New York. Mr. H. C. Hanley, of the Chicago office, has been made manager at Chicago, and Mr. M. J. McCarthy, of the New York office, has been appointed assistant manager of Chicago.

WANTED—An experienced and competent man as superintendent of cotton seed mill and gin. A new plant. Splendid opportunity. Address, giving reference and full information. Critchfield & Company, Chicago, Ill.

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TEXAS AND THE SOUTHWEST

(Glenn Pricer, Dallas, Tex., Special Correspondent for Oil Miller)

TEXAS OIL MILLS HAVE DEVELOPED HALF MILLION INDUSTRY.

How the cotton seed oil industry in Texas has grown from nothing to an industry operating 250 mills, worth on an average of \$100,000 each, converting seed once considered worthless into a product worth half a billion annually is told by J. C. Weaver, of Dallas, one of the pioneer founders of the cotton oil mill industry.

Mr. Weaver recalls the time in Texas when cotton gins had to be moved away now and then to get away from the accumulations of cotton seed. Ginners gave the seed to anyone who would haul them away and frequently paid wagoners to haul the useless seed and dump them into gullies. Laws were actually passed in Texas forbidding the throwing of cotton seed in streams, thereby creating a nuisance.

As the farmer, educated by the ginner and the oil men, learned more about the value of meal and hulls for feed, the price for seed has arisen from zero to \$90, the top price last year.

Mr. Weaver says records show cotton seeds were crushed in a small way in South Carolina almost a century ago and later a small crusher was established at New Orleans, but nothing of importance came of the industry until after the Civil War in 1865, when the first cotton seed crushing mills appeared in South Texas. While the cotton seed oil was the only marketable product in the United States then cotton seed meal was being fed to cows in Germany, Denmark and Sweden. The Texas product was sought because of its high protein content.

"Because of the export trade," said Mr. Weaver, "the first cotton seed crushing plant, that of Ricker & Co., New York, was erected in Galveston. It operated through two seasons from 1867 to 1869. Its machinery had come almost exclusively from Germany. It was not originally intended for cotton seed crushing, for the Germans knew nothing of that industry, but with minor changes it served the new purpose.

"In 1869 the Galveston establishment was sold, because the New York firm had decided its investment was not profitable. Ahrenbeck Brothers and Henry Schumacher were the principal buyers. They dismantled the mill and moved it closer to the fields of cotton.

"In the meantime, 1869, F. Hillje erected at High Hill the second oil mill in Texas. A few years later it was moved to Weimar, Tex., where a mill under the same ownership is still operated. This early

mill used press boxes made of hickory blocks, bound with steel bands and hollowed out to hold the meats of cotton seed. It worked for six seasons.

"Ready for the season of 1871, Ahrenbeck Brothers had their plant at Hempstead built. This has been a continuous establishment since that time. They used the presses and heaters from the old Galveston mill. Henry Schumacher had his plant at Navasota ready for the season of 1873.

"It was not until 1878 that the fifth mill in Texas was completed at Dallas by Major Robert Gibson, for the Howard Oil Co. Major Gibson is now secretary of the Texas and Interstate Cotton Seed Crushers Associations. The Hillje mill at High Hill was actually built by Mr. Baumgartner, who, in 1882, built the Schulenberg mill, with machinery imported from Germany. In about 1876 a mill was erected at Columbus and operated for about five or six seasons, and was dismantled. About this time a mill was built at New Ulm. Mills later went up at Hallettsville, Lavaca, Luling, Kyle, Taylor, Rockdale and Caldwell.

"San Antonio had her first mill in 1882. It was built by Neuman Lange. Later it was sold to Hillje Brothers, who still operate it. LaGrange had a mill about the same time, operated by White & Bradshaw.

"As the cotton crop spread over North and East Texas, other mills were put in operation until there are now about 250 of them, nearly a third of the whole number in the cotton states. After the crude oil mills came the refineries, of which there are about 12 in Texas, with many new ones being planned.

"With the cotton crop of 3,000,000 bales Texas now produces about \$1,500,000 tons of seed crushed. From each ton of seed are obtained approximately 38 gallons of oil, 950 pounds of cake and meal, 540 pounds of hulls, 145 pounds of linters, with a shrinkage of about 100 pounds.

"The first feeder of hulls to cattle seems to have been a Texan. The honor is said to lie between J. H. G. Hughes, of Grimes county, and A. J. Vick, who lived in the vicinity of Navasota. The hulls were obtained from the mill of Henry Schumacher, who for \$1 paid in hand, permitted the feeders to take all the hulls they could haul away on a wagon, drawn by as many oxen as they chose to hitch. They hauled away more hulls in that load than they could get today for \$50.

"From hickory blocks and valueless cotton seed we have evolved the modern cotton mill and a half million dollar crop in fifty years. In the next

TEXAS AND THE SOUTHWEST (Continued)

fifty years, who will dare attempt to prophesy? It is not at all unreasonable to suppose that the present trend of progress will lead us to the point where the South could feed itself and clothe itself, as well as a large part of the outside world, with the products of the cotton fields alone."

New Bureau Will Reduce Fire Risks.

Plans for a new bureau of inspection to be known as the Texas Inspection Bureau have been laid before the state commissioner of Insurance by Dallas cotton oil mill interests.

The new bureau will absorb and take over the work of the Cotton Seed Oil Mill Inspection Bureau, of which A. R. Andrews, of Dallas, is manager and also the printing of forms for the companies. Up to this time most of the fire insurance companies writing insurance on cotton oil mills are members and others are seeking admission.

The new bureau will make a specialty of inspecting special hazards and sprinkler risks, taking the inspection burden from the insurance companies. It will have nothing whatever to do with rates or rate making. The results of its inspection are not obligatory on the companies, but the data gathered by its expert inspectors will be available for all the companies in their determination of rates. The inspectors will help the insured to improve their risks, reduce fire waste and eliminate dangerous conditions, all of which will tend to reduce insurance rates as well as effect a reduction in the burning waste in Texas.

Texas Millers Convention.

The twenty-fifth annual convention of the Texas Cotton Seed Crushers' Association took place at Galveston, June 9-11. An interested program was prepared for the large attendance.

The convention was called to order by Dr. Felix Paquin and the address of welcome delivered by M. H. Royston, city attorney of Galveston. The response was given by J. A. Underwood, of Honey Grove.

John M. Parker, of Galveston, gave an address on "The Value of Cotton Seed Mill Cake and Hulls to the Live Stock Men of America."

Following this there were the annual addresses of President J. Webb Howell, of Bryan, and the annual reports of Secretary Robert Gibson, of Dallas, and Treasurer J. A. Underwood, of Honey Grove.

A bathing party and dance at the close of the first day's session afforded entertainment to many.

On the second day there was an address by W. B.

Bissell, president of A. & M. College of Texas, on "Cotton Seed Crushers Relation to General Agriculture."

On the third day an address by F. M. Low, Galveston banker, on "Credit and Credit Instruments."

Texarkana To Have Third Oil Mill.

Texarkana will have a third cotton oil mill completed in time for the 1919-20 season. Work is to be started at once on a ten ton mill. The new mill will be operated under the name of the Liberty Cotton Oil Co., with Henry Moore, Jr., president; C. L. Cabe, of Stamps, vice president and F. W. Offenhauser, of Texarkana, secretary-treasurer. The capital stock is \$150,000. The company has purchased a site of nine acres.

The Farmers Oil and Fertilizer Co., and the United Oil Mills are large pioneer mills at Texarkana.

Texas Crop Outlook Bright, Say Millers.

All reports indicate a large cotton crop for Texas this season. While there will be a possible 20 per cent acreage reduction in the cotton belt, there is a fine prospect for a good cotton crop in West Texas, where there has been no crop for the last two years on account of the drouth.

Rains have been heavy in West Texas and cotton growers say there is a fine season in the ground.

Oil development in West Texas has helped the cotton growers. Farmers have leased their lands for oil development and have used the money to plant crops and develop new land.

Notes From the Field.

J. L. Dashner and J. T. Moore, of the Farmers Cotton Oil Co., of Celina, declare that the Texas prospects for a big crop are better than for many years, and that the oil mills are looking forward to the best season at the best prices they ever had.

B. B. Hulsey, secretary-treasurer of the Forney Cotton Oil Co., says the plant is getting ready for a big run. The company operates nine gins in Kaufman county.

T. G. Bengé, of Wolfe City, manager of the Hunt County Oil Co., reports indications good for a fine crop. His mill has eight presses with a capacity of about 160 tons a day.

Notwithstanding increased cotton acreage in Dallas and Collin counties, these counties will probably raise more cotton than for several years, is the prediction of B. C. Newberry of Plano, of the Plant-

ers Cotton Oil Co. He owns an oil mill and nine gins in North Texas.

Waco is soon to have an \$800,000 cotton mill, employing 400 persons and with a weekly capacity of 100,000 yards of cloth. The mill will be built by the Miller Manufacturing Co., of Dallas, who will consume the output in the Dallas overall factory.

The first unit of a \$2,000,000 cotton warehouse will be built in Dallas this summer. The warehouse is being financed by members of the Dallas Cotton Exchange.

CHINA—A MARKET FOR OIL MILLING AND REFINING MACHINERY.

The American consul at Tsingtau states that this port is a very large exporter of peanut and soybean oil, which are the product for the most part of crude native Chinese appliances. Two Japanese firms are conducting extensive experiments in oil pressing and extracting processes and it is probable that the present crude methods will be superseded by more efficient practices. This will be made necessary by the higher oil specifications that are being introduced. Tsingtau is, moreover, developing as an industrial center and all of these considerations would point to a good market for oil milling and refining machinery.

In the last two years over 17 factories of different kinds, including oil mills have been erected and special inducements offered by the authorities will probably result in many more. Catalogs sent should be in English. Japanese is extensively used but most of the leading Japanese merchants know enough English to read catalogs.

REDUCED PEANUT PRODUCTION IN INDIA IN 1918.

England's supply of peanut oil from India during the year just past was considerably reduced and the final estimate of the peanut crop there for the year 1918-1919 as given in the Indian Department of Statistics shows a decrease of 32 per cent in acreage and 55 per cent in yield as compared with the preceding year. These averages are based on reports from the three Provinces of Madras, Burma and Bombay which comprise 99.2 per cent of the entire peanut areas in British India.

The total yield was but 40,000 tons as compared with 1,038,000 in 1917. The average yield per acre was 1,255 pounds in 1917 and but 837 in 1918.

Climatic conditions have not on the whole been favorable for the crop. The failure of rains at sowing time considerably restricted the area sown and the crop has since suffered from drought.

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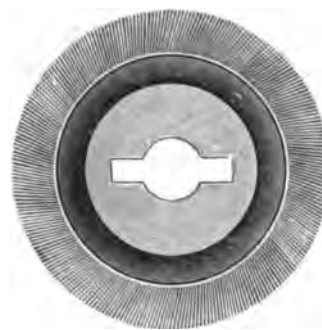
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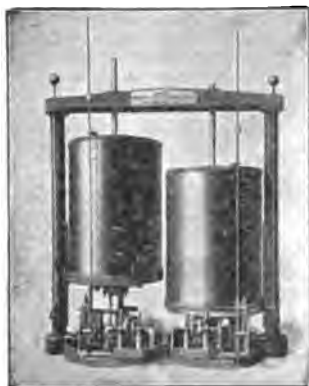
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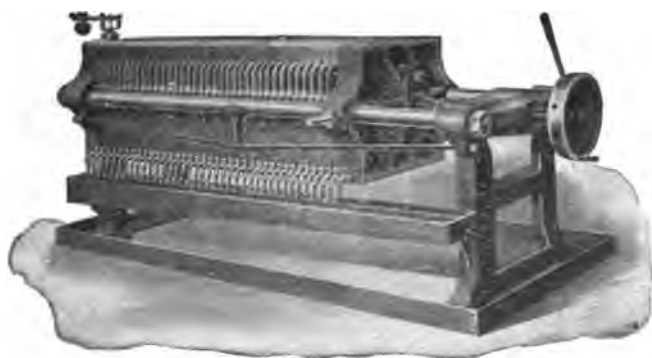
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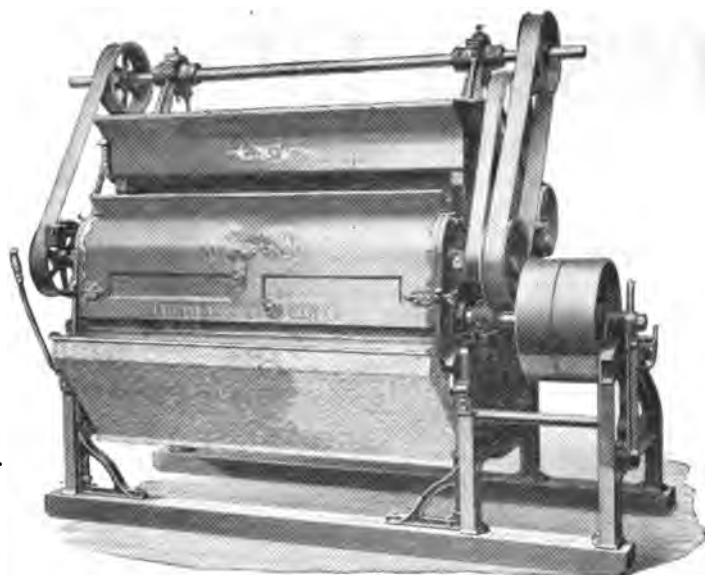
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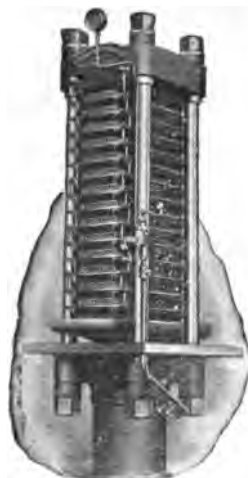
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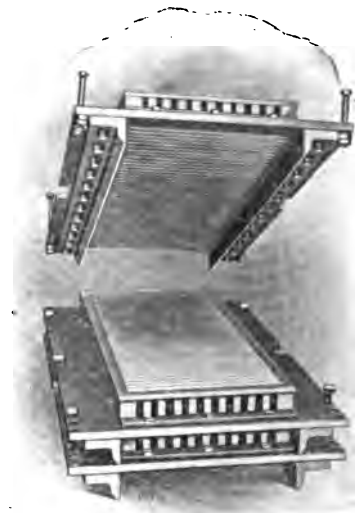
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5 Depot St. SALEM, OHIO

FOR SALE.

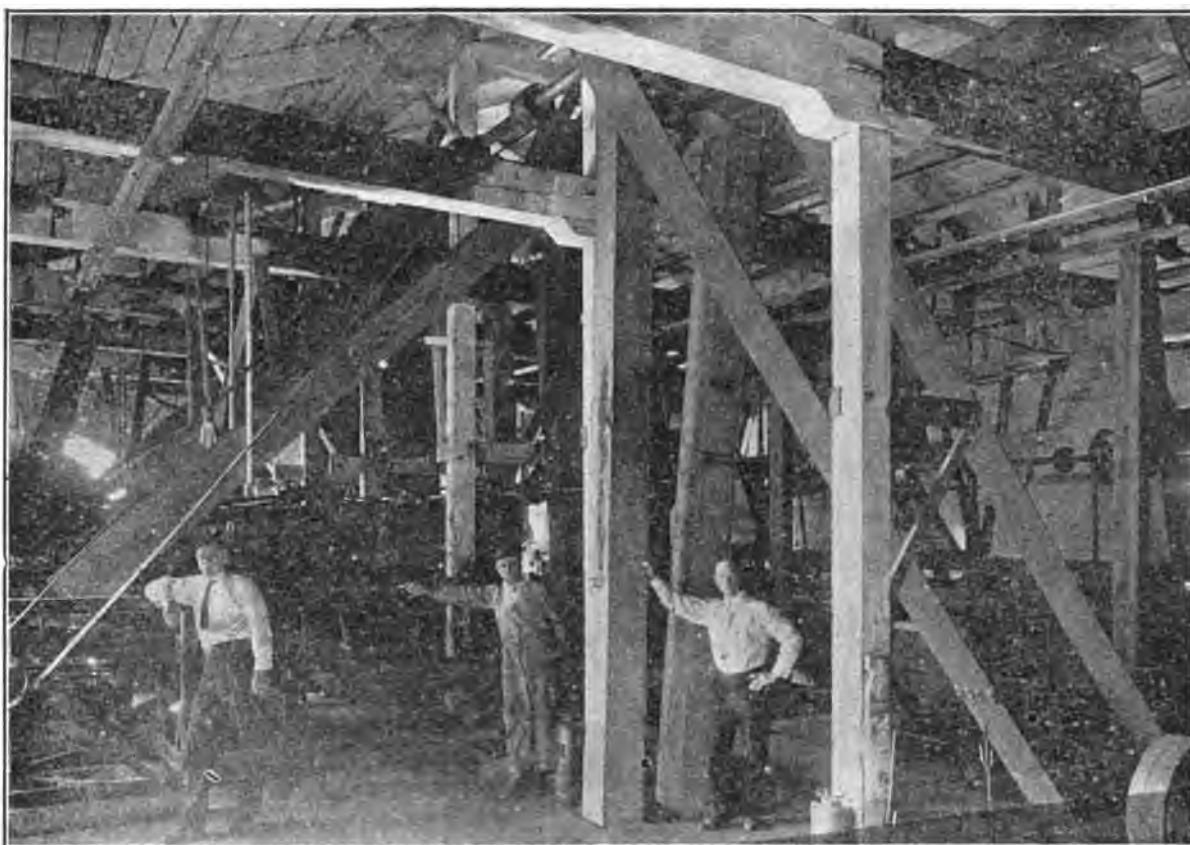
14 Foot Meats Reel.

Never been used.

Reasonable price.

Quick Shipment.

Address "B. R.", care of The Oil
Miller, Empire Building, Atlanta, Ga.



A Room Full of Leviathan Belts

General Superintendent says: We are using Leviathans everywhere and are well satisfied.

THE picture shows the linter room in a Southern oil mill. All the drives are Leviathans; saw drives, crossed 5 in. x 5 ply; saw drives open, 6 in. x 5 ply; brush drives, 4 in. x 4 ply. Counter in the center, joined with Jackson fasteners, 12 in. x 6 ply.

Leviathans wherever you go in this mill using 10 in. x 6 ply on roll drives and the same on heater drives; several 12 in. and 14 in. counter drives; motor

drives in gin house, 10 in. x 5 ply.

The story is the same in the several plants of the corporation. When a concern of this weight so strongly endorses Leviathan, comment from us is not needed.

However, we may state that one great reason for Leviathan success is that *the belt is always fitted to the position.*

Why not put your problems to the Leviathan man on his next call?



MAIN BELTING COMPANY - - Philadelphia
New York Boston Chicago Pittsburgh Atlanta San Francisco



**Are you Satisfied with your Belting?
Is it giving the Service it should?
It will Pay you to Investigate**



36-38 West Alabama St.

S A W Y E R

Stitched Canvas Belting made of Highest
Quality Cotton Duck.

M A R C O

Highest Quality possible to produce in
Rubber Belting.

LEATHER BELTING — Best Grade.

ALSO complete stock of Elevating, Conveying and
Power Transmission Machinery. Ginners and Oil Mill
Supplies. Feed Grinders, Gasoline Engines, Electric
Motors. Velvet Bean Hullers. Machine Shop and Foundry
Equipment. Quotations cheerfully given.

SEEGER-WALRAVEN COMPANY

Machinery and Mill Supplies

ATLANTA, GA.

REED & DUECKER

MEMPHIS, TENN.

Oil Mill Machinery and Supplies

Everything from Foundation
to the Top of the Smokestack

BAUER BROS. CO.
BUCKEYE IRON &
BRASS WORKS.
CHANDLER CONST. CO.
DODGE MFG. CO.
WELLER MFG. CO.
BURNHAM PUMPS.
HOPPE'S HEATERS.
LINK BELT CHAIN.
WHITLOCK ROPE.
HULLER KNIVES.
ATTRITION PLATES.
DODGE CLUTCHES

PERFORATED METALS
CANVAS BELTING
RUBBER BELTING
POWELL VALVES
HYDRAULIC PIPE
HYDRAULIC FITTINGS
AIR COMPRESSORS
DEEPWELL ENGINES
CONVEYOR

MACHINERY
ELEVATING
MACHINERY

LARGE STOCKS
PROMPT
SHIPMENTS

REED & DUECKER

Memphis, Tenn.

REED & DUECKER

MEMPHIS, TENN.

MANUFACTURERS OF

U. S. Oak Tanned Leather Belting
Hippo Waterproof Leather Belting
U. S. and Hippo Belt Cement
Hippo Belt Dressing
Hydraulic Crimp Leathers

OLD BELTS

Made New by our Process; send them to us. By
doing this your belt will last twice as long and will
transmit 33 1-3 per cent more power.

WRITE US

LARGE
STOCK
LEATHER
BELTING
1 to 48 in.

Reed & Duecker

Memphis,

Tenn.

The Picard Laboratories

(D. C. Picard, B. Sc., M. A.)

Analytical and Consulting Chemists.

Specialties :

**Cotton Seed Products,
Fertilizers, Feeds,
Fuel and Water.**

EXPORT AND REFEREE WORK.

1911 First Avenue, Birmingham, Ala

HE KNOWS VALVES

So he looks for the "Diamond Mark"

The man who sees and knows valve performance, makes sure of the Jenkins "Diamond Mark." He has seen genuine Jenkins Valves "on the job" year in and year out—he knows they are made to meet the test of service—and do.

The Jenkins Diamond, the distinguishing mark of unvarying service, is on the body of all Jenkins Bros. Valves—Brass, Iron and Cast Steel. These include types and sizes to meet all requirements: Globe, Angle, Cross, Check, Combination Stop and Check, Blow-off, Whistle and Gate Valves in stationary or travelling spindle patterns.



JENKINS BROS.

New York Philadelphia Boston Chicago
Montreal London, E. C.

Jenkins Valves



"EDGE-CUT" GUMMERS

Were first introduced by us to the Oil Mill trade about three years ago. They presented a NEW IDEA and immediately SET A NEW STANDARD, toward which competition has been working—more or less vainly—ever since. The new idea was that a Gummer File should cut on its edge, so as to DEEPEN the teeth as well as on the sides to SHARPEN them. Ordinary Gummer Files, having only mere rudimentary and "accidental" teeth on their edges (which soon wore slick), would file the sides and the points of the teeth and shorten them down to little stubs, but the SLICK EDGE of the file would skate along in the throat without lengthening or gumming the teeth to any appreciable extent. REAL GUMMING requires real file-teeth on the edge of the Gummer—CUT TEETH, not rolled or milled.

That's the Secret of the "EDGE-CUT" idea. It's not all of the secret, by any means, but the balance is merely in the expert and conscientious workmanship and the high-grade, high-carbon tool-steel which we use—both very expensive, but worth every cent they cost. ANOTHER THING is an element of their excellence and is as old as the art of file-making itself—that is, that real, sure-enough, honest TEETH are CUT on the edges. All the teeth always have been and always should be CUT with a chisel, and we GUARANTEE THAT OURS ARE NOT MILLED OR ROLLED ON.

The A. A. WOOD & SONS CO., Manufacturers, ATLANTA, GA.

FOR SALE.

Cotton seed oil mill machinery for a five press mill complete, including power plant. Twelve of the eighteen lintrs have never been operated. Other machinery is in good operating condition. A bargain for quick trade.

GEO. H. WALKER,
P. O. Box 1424, Muskogee, Okla.



The Fort Worth Laboratories

Consulting, Analytical Chemists and Chemical Engineers, Oil Mill Products our Specialty.

F. B. PORTER, B. S., Ch. E., President
R. H. FASH, B. S., Vice President

828 1-2 Monroe St., Fort Worth, Texas

M. M. GRAVES COMPANY, Inc.
HOUSTON, TEXAS.

BAGGING and TIES
SUGAR BAG CLOTH

Attractive Prices—Efficient Service.

ESTABLISHED IN 1875.

F. W. BRODE & COMPANY

COTTON SEED PRODUCTS.

Agents for J. T. Perkins Co. O. H. Press Cloth.
Seed, Meal and Cake Bags. Full Line of Mill Twines
Always on Hand.

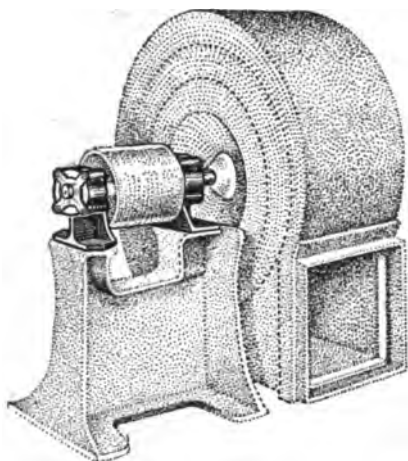
BAGGING AND TIES.

MEMPHIS, TENN.

BALL BEARINGS

Replace
Your Plain Babbited Bearings
with

S. K. F. BALL BEARINGS



FAN EQUIPPED WITH BALL BEARINGS

Replacement easily and quickly made. Results saving in power, lubrication, time, attention. No interruptions or shut-downs. Great saving in fan belts. Full instructions for applying shipped with bearings.

If interested please fill in as below and mail to us.

..... INFORMATION

NECESSARY FOR EQUIPPING FANS WITH
BALL BEARINGS

Make of Fan
Diameter of Fan Diameter Fan Shaft.....
Center of Shaft to Bearing Base on Pedestal.....
Size and Number of Bolts in Bearing Base
Bolt Spacing on Bearing Base
Remarks:

Bailey-Burruss Mfg. Company

ELEVATING, CONVEYING, TRANSMISSION, Etc.
OIL MILL MACHINERY.

ATLANTA

GEORGIA

"SCANDINAVIA" BELTING

Supreme in Oil Mill Service!

Over 350 Oil Mills, in the Southeastern States
alone, use Scandinavia Belting.

Oil, Water, Steam and Dust Proof.

Best for Transmission, Elevator or
Conveyor Service.

Backed by a Remarkable Guarantee.

SOUTHERN STOCKS ARE CARRIED BY
SCANDINAVIA BELTING CO.,
78 North Pryor St., Atlanta, Ga.
YOUNG & VANN SUPPLY CO., Birmingham, Ala.

All Farm Products will Remain High for Years to Come.

Just Think of it!

Short Cotton at	30c lbs.
Long Cotton at	75c lb.
Cotton Seed at	\$85.00 ton
Peanuts at	\$125.00 ton
Corn at	\$2.00 bu.
Live Hogs at	18c lb.
Syrup at	\$1.00 gal.

Why not buy a small farm in South Georgia and work it yourself. One crop, at half the prices for the above products, will pay for it.

Spend the winter clearing a few acres. One man can clear one acre a day, average new cut over land along the A. B. & A. Railway.

South Georgia lands are cheap. Now is the time to buy.

For list of farms for sale and other information, ask

W. W. CROXTON, G. P. A.

A. B. & A. RAILWAY,
ATLANTA, GA.

THINK IT OVER

The underwriter will not insure against loss of profits on damp cottonseed no matter what premium you agree to pay. The risk is too precarious. Then as a hard-headed business man, how can you justify taking chances?



Don't you think the level headed thing to do is to purchase an apparatus which will prove the means of protecting you absolutely against loss of profits which continually stare you in the face? An ELLIS COTTON SEED DRIER will do it.

THINK IT OVER.

100 Ton Self-contained Drier

WE ALSO MANUFACTURE DRIERS FOR GRAIN, RICE, BEANS, PEANUTS AND MEAL
THE ELLIS DRIER COMPANY, Chicago, Illinois

It's a Paying Investment

to buy **Jewell Chrome Leather Belt**. The first cost may be higher than that of other beltings, but the longer life of this belt under severe strain and adverse conditions has proved to the oil mill men who have used it that it is the most economical belt they have used. The tensile strength of the **Jewell Chrome Leather Belt** is very much greater than that of first class oak tanned leather belt. Because of its flexibility it gives greater pulley contact than any other belt, and transmits more power with less slip than any other leather belt. It is waterproof, steamproof and oil-proof.

The **Jewell Chrome Leather Belt** is not an experiment. It has been on the market over fifteen years and has demonstrated beyond a doubt its superiority over other kinds of beltings.

Try it on your linters, on your fans or any other place where you really need a good belt. You will be satisfied.

Any of the jobbers listed below can supply you.

MANUFACTURED EXCLUSIVELY BY

JEWELL BELTING COMPANY

Tanners and Manufacturers of Oak Belting, Chrome Belting and Lace Leather.

Main Office and Factory, HARTFORD, CONN.

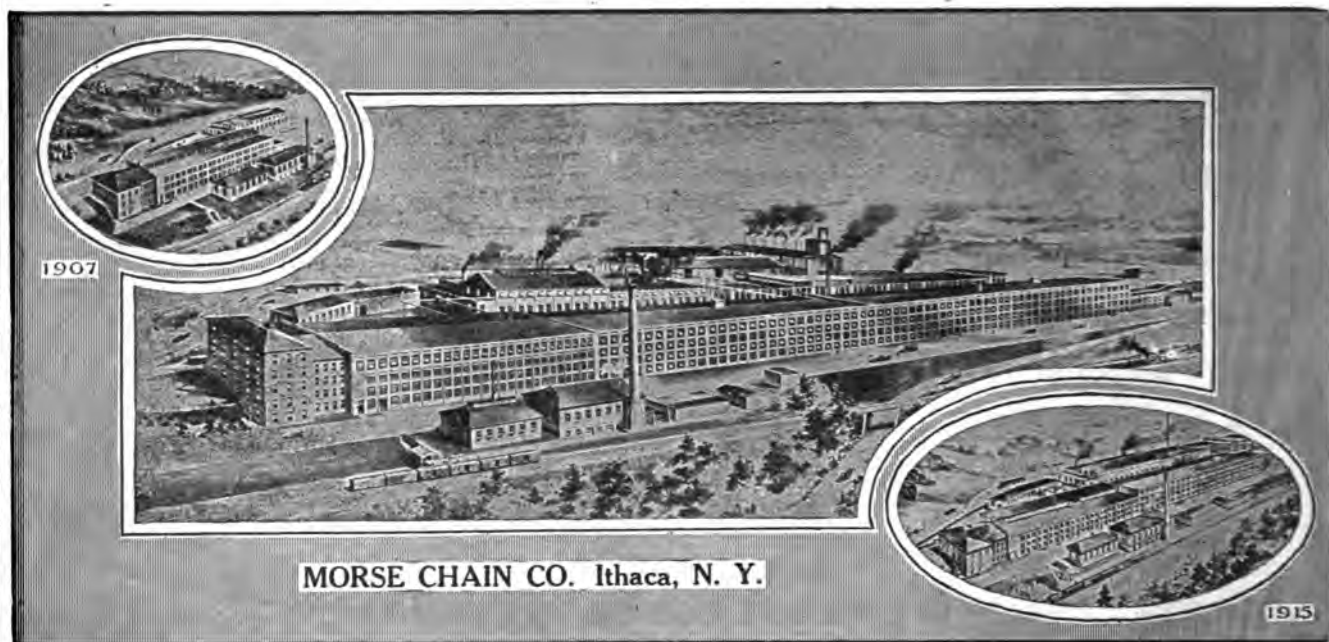
Carey Machinery & Supply Co., Baltimore, Md.
 New Bern Iron Works & Supply Co., New Bern, N. C.
 New Bern Iron Works & Supply Co., Fayetteville, N. C.
 Bailey-Lobby Co., Charleston, S. C.
 Beck & Gregg Hardware Co., Atlanta, Ga.

Albany Mill Supply Co., Albany, Ga.
 Young & Vann Supply Co., Birmingham, Ala.
 Towner & Co., Memphis, Tenn.
 Central Supply Co., Little Rock, Ark.
 Norvell-Wilder Hgwe. Co., Beaumont, Texas.

MORSE



DRIVES



MORSE CHAIN CO. Ithaca, N. Y.

1919 MORSE CHAIN COMPANY, Ithaca N. Y.
The World's Largest Silent Chain Factory.

"Morse" Factory Development

arises from the use and endorsement of "Morse" products by the industrial world. It proves that the "Morse" rocker joint drive, the most efficient power transmission known to science, has given satisfaction, has met and exceeded all claims and guarantees, and has made good.

Producing More With Less

Aim of Scientific Management with its Time Studies, Bonuses, Premiums, Standardization, Cost Keeping and Cost Finding, etc.

Power transmission is revolutionized by the 99 per cent Efficient "Morse Drive."

The abnormal losses, due to Belting, are being conserved by Engineers, Manufacturers, and Machine Designers, using "MORSE."

Are you, under your Conditions, producing Maximum Output with Minimum Cost?

Not if you are using Belts and losing 15 per cent.

Conserve Power

**Before Buying Pulleys and Belting
investigate, know the facts**

Increase Production

MORSE CHAIN CO. Largest Manufacturers of **ITHACA, N. Y.**
Silent Chains in the World

MORSE ENGINEERING SERVICE

ASSISTANCE WITHOUT OBLIGATION

BOSTON, MASS. 141 Milk St.
CHICAGO, ILL. Merchants Loan and Trust Bldg.
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NEW YORK CITY 50 Church St., Hudson Term. Bldg.
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SAN FRANCISCO, CAL. Monadnock Bldg.
ATLANTA, GA. Earl F. Scott, M. E., 702 Candler Bldg.

CANADA Jones & Glasco, Regis'd.
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ilton Bldg.
KANSAS CITY, MO. Morse Engineering Co.
R. A. Long Bldg.
MINNEAPOLIS, MINN. Strong-Scott Mfg. Co.
413 Third St.
ST. LOUIS, MO. Morse Engineering Co. Chemical Bldg.
Licensees for Europe and Eastern Hemisphere. The West-
inghouse Brake Co., Ltd., 82 York Road, London, N.

Write for 1919 Vest Pocket Diary and Memorandum Book. Give Firm, Position, Address.



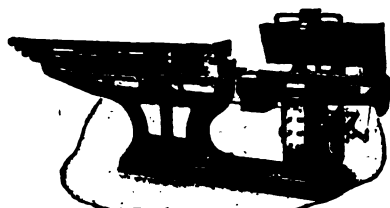
4-Cylinder Power Pump



**Crushing Rolls
Plain or Ball Bearing**



McNulty Cake Stripper.



Hydraulic Cake Former

Our Complete Line of Improved Press Room Machinery

Will ensure the greatest economy in the use of steam, power, press cloth and labor, and will produce brighter cake and meal, and a greater yield of oil with lower refining losses. We manufacture

**Automatic Continuous Cookers.
Hydraulic Cake Formers.
Power Hydraulic Pumps.
Accumulators.
Cake Trimmers.
Faherty Huller Knives.
Cake Packers.
McNulty Cake Strippers.
Cooker Drain Pumps.
Cottonseed Presses.
Safety Steel Press Boxes.
Steel Press Cylinders.
Automatic Change Valves.
Cake Coolers.
Hydraulic Fittings.
Crushing Rolls.**

If interested in better results write

The French Oil Mill Machinery Co.

Dept. B.

PIQUA, OHIO

REPRESENTATIVES:

**PAUL WATSON, 2608 Avenue O, Galveston, Texas.
M. W. FAHERTY, Box 142, Memphis, Tenn.
TOM R. BROOKE, 615 Empire Bldg., Atlanta, Ga.**



Automatic Change Valve



Automatic Continuous Cooker

M
Bauer
SCIENTIFIC

Your Separation Problem Answered Again !

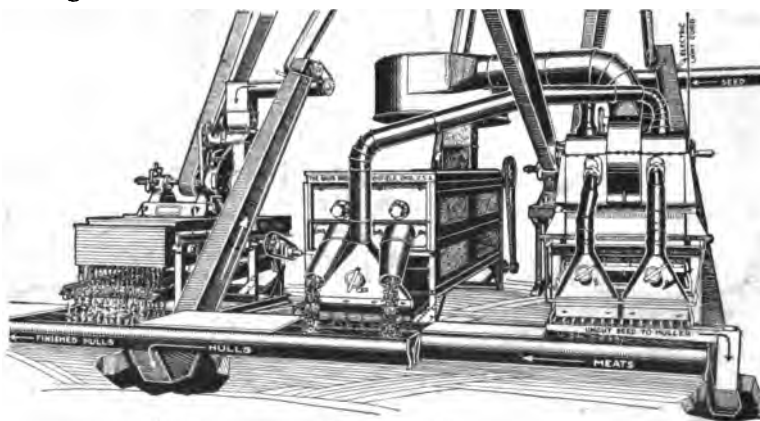
THE PROBLEM IS — How to remove lint and linty Hulls during the process of separation — when the Seed is carrying a large amount of lint.

THE ANSWER IS — The No. 153 Bauer Separating Unit — With Bran Separator.

When treating loosely linted Seed, the No. 153 Separating Unit delivers the Meats free of linty Hulls and loose Fibre; in consequence the protein is high.

To control the protein or ammonia, clean Hull Bran must be added to the Meats in scientific proportions.

This Bran is obtained by re-treating the Hulls in a No. 160 Bauer Bran Separator on the frame of which is mounted a "Scientific" Disc Huller equipped with Hull Regrinding Plates.



The Bauer Separating Unit with Bran Separator.

In addition "Scientific" Oil Mill Machinery includes —

Meal Reels
Disc Hullers
Cake Breakers
Attrition Mills

Seed Cleaning Units
Sand and Boll Shakers
Pneumatic Seed Cleaners
Single and Double Shakers

For further information write _____

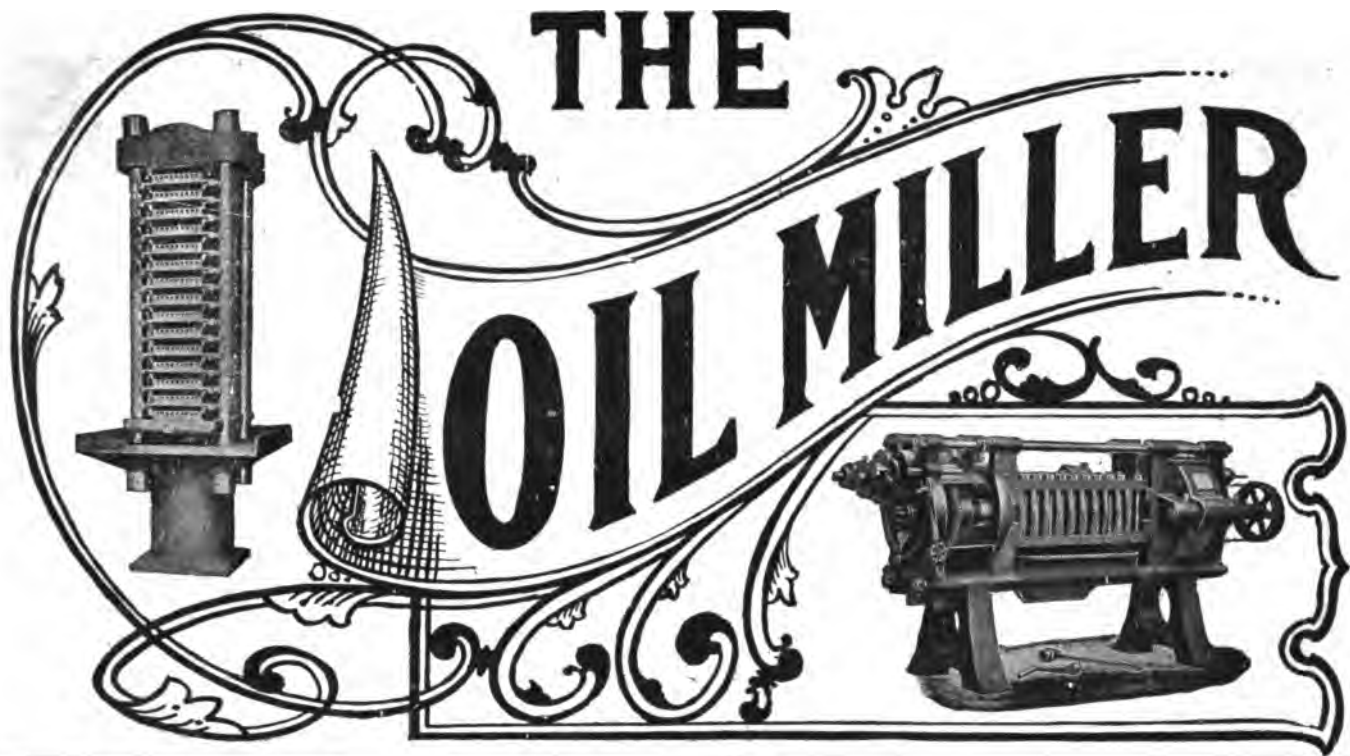
THE BAUER BROS. CO.

509 Bauer Building
SPRINGFIELD. OHIO

Southwestern Representatives: Briggs-Weaver Machinery Co., Dallas, Tex.

SCIENTIFIC

ATLANTA, GA.
PUBLISHERS' PRESS, PRINTERS



Vol. IX. No. 11.
Monthly.

Atlanta, Ga., July 1919.

Entered as Second-Class Matter at Atlanta, Ga., under the Act of March 3d, 1879.

\$1.00
Per Year

LAW & COMPANY, Inc.

(Formerly the Picard-Law Co.)

The Oil Mill that attempts to operate under present conditions without chemical control is working under a handicap that it is impossible to overcome.

Chemical control by yearly contract and referee and settlement work our specialty.

A cordial invitation is extended to all our oil mill friends to visit our new laboratories, top floor of the Walton Building, when in Atlanta.

LAW & COMPANY, Inc.

Atlanta, Ga.

Wilmington, N. C.



RAINBOW Friction Surface Belting

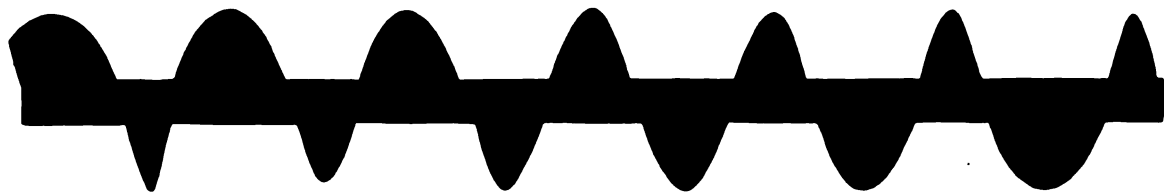
Being a manufactured product, Rainbow Belting is uniform in construction ensuring even strength with no weak spots. When properly installed it runs absolutely true, grips the pulley, and delivers full power.

Our belting men are at your service. Take advantage of their wide experience in solving the problems of correct installation on the different drives in your mill, namely:—Linters, Linter Floats, Hullers, Beaters, Shakers, Cake Breakers, Press Rolls, Cake Mills, Seed House drives and Main drives.

**“The Right Belting
in the Right Place”**

United States Rubber Company





↑ **END FLIGHTS EXTRA HEAVY** ↑

Jeffrey Sectional Flight Spiral is made of a series of single spiral turns riveted together, and securely mounted on a hollow shaft. End flights of each section where the most wear occurs are Extra Heavy.



Jeffrey U-Bolt Hangers and End Bearings are furnished with Jeffrey-Randall Graphite Sheet Lubricator which increases the life of the bearings about 300%—Saves 75 to 90% in oil or grease.



Countershaft End Bearings

JEFFREY Equipment

For Cottonseed Oil Mills

A Complete Line of

Chains and Attachments
Sprockets and Traction Wheels
Spur, Bevel and Mitre Gears
Malleable Iron and Steel Elevator Buckets
Elevator Boots and Casings
Takeups — Collars — Couplings
Bearings — Pulleys — Hangers
Spiral and Belt Conveyers and Fittings, etc.
Write for Latest Catalog on Jeffrey Equipment.

The Jeffrey Mfg. Co.
968 N. Fourth St. Columbus, Ohio

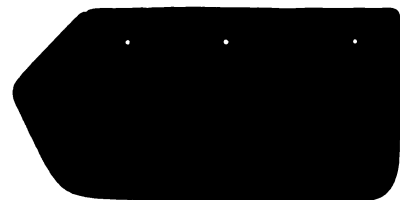
JEFFREY SERVICE STATIONS CARRYING STOCK:

Atlanta, Ga.—Cotton States Belting & Supply Co.
Baltimore, Md.—Carey Machinery & Supply Co.
Charleston, S. C.—Bailey-Lebby Co.
Fort Worth, Texas—Texas Mfg. Co.
Houston, Texas—Peden Iron & Steel Co.

Montgomery, Ala.—Alabama Machinery & Supply Co.
Memphis, Tenn.—Riechmann-Crosby Co.
New Bern & Wilmington, N. C.—Hyman Supply Co.
New Orleans, La.—The Fairbanks Co.



Jeffrey Standard Detachable Chain and Attachments



Standard Steel Elevator Bucket for handling Seeds, Grain, etc.

The ANDERSON Steam Trap

*Will Solve Many
of your
Cooker Problems*

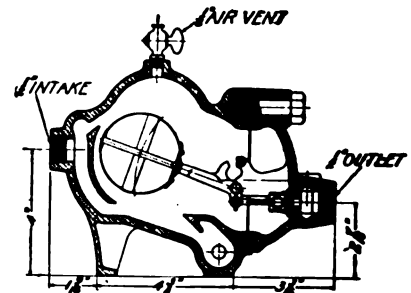
From the day you put it in, this Anderson Model "D" Steam Trap will stay tight. Operated by a counterbalanced Lake Superior Copper float, it will work perfectly under high or low pressure in any boiler-room. Its every part is machined to solid gauges. Its large area valve, permanently under deep water seal, will not wire draw. It has a self-contained strainer, an outside gauge glass, a self-contained by-pass. And its construction affords complete accessibility to all parts.

This Anderson Trap will save you expense and trouble and time. Install it in your boiler room. Booklet on request.



The Anderson Junior Steam Trap

**The Best and Lowest in Cost
Where Small Capacities
Are Required.**



Engine Room Insurance

Anderson Steam Separators

are a **positive protection** to the engines — because they deliver **dry steam** under all operating conditions.

The separation is made complete by means of the combined action of centrifugal force, and the whip snapping effect in the sudden reversal of the high velocity steam current.

The separated moisture is drained into the receiver, from which it cannot be picked up by the steam current again.

Booklet Mailed on Request.



Figure 22

The V. D. Anderson Company, 1935 West 96th St., Cleveland, Ohio.

431 S. Dearborn St.
CHICAGO

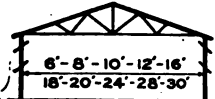
212 Union Trust Bldg.
BALTIMORE

537 Race St.
PHILADELPHIA, PA.

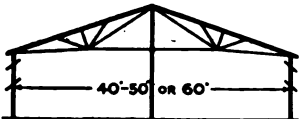
100 Pearl St.
BOSTON, MASS.

WIDTHS OF TRUSCON STANDARD BUILDINGS

*Any Length of Building varying by 2 ft.
Wall Heights, curb to eave, 7'-10" or 11'-6"*



TYPE 1 (Clear Span) BUILDINGS

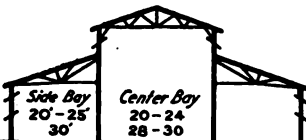


TYPE 2 (Two Bay) BUILDINGS
One Row of Columns in Center



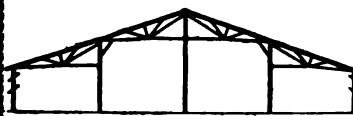
TYPE 3 (Three Bay) BUILDINGS
Two Rows of Columns in Interior

Widths - 50' 52' 56' 58' 60' 64'
68' 70' 74' 78' 80' 84' 90'



TYPE 3M (Monitor) BUILDINGS

Widths - 60' 64' 68' 70' 74'
80' 84' 90'



TYPE 4 (Four Bay) BUILDINGS
Three Rows of Columns in Interior

Widths - 80' (4 Bays @ 20')
100' (4 Bays @ 25')

CONTINUOUS MONITOR 12'-0"
WIDE CAN BE PROVIDED AT
RIDGE OF ANY BUILDING



THE IDEAL BUILDING

FOR FIRE PROTECTION

For oil storage Truscon Standard Buildings meet every requirement of speedy erection, fireproofness and economy.

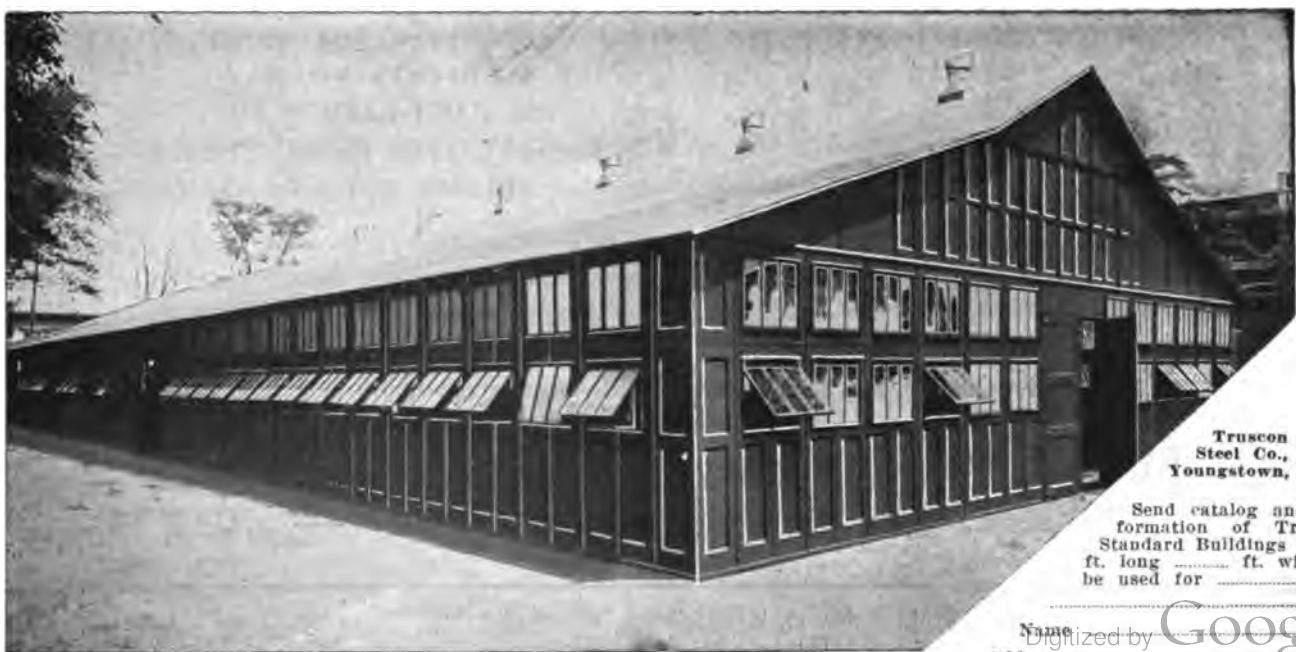
In oil mill construction particularly fireproofness is essential—Truscon Standard Buildings cannot burn, as they are made of all-steel interchangeable panels; the same building at any time can be enlarged, or re-arranged, or taken down and re-erected in a new location without loss.

Economical in cost and quickly erected, they are admirably adapted for warehouses, cotton gins, seed houses, mill buildings, storage buildings and fertilizer buildings; also dining halls, tool rooms, garages, hospitals, etc. Furnished in any length, various heights and widths up to 100 feet.

If you need a new building, write us stating approximate size, or return coupon

TRUSCON
STANDARD BUILDINGS

TRUSCON STEEL COMPANY
• YOUNGSTOWN • OHIO • WAREHOUSES AND SALES •
OFFICES IN PRINCIPAL CITIES
Reinforced Steel, Metal Lath, Steel Windows, Steel
Buildings, Pressed Steel Cement Tile, Etc.



Truscon
Steel Co.,
Youngstown, Ohio.

Send catalog and in-
formation of Truscon
Standard Buildings
ft. long ft. wide
be used for

Name _____
Address _____

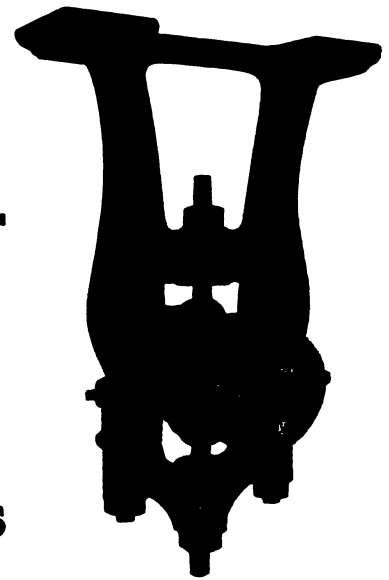
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To Get the Right Start Equip With

MEDART

LINE SHAFTING EQUIPMENT

Medart double-brace Ball and Socket Adjustment Self-lubricating Drop Hanger. Very heavy, strong, rigid, open-bottom, four-way adjustment Frame. Is easy to erect and align. Positive Steel Spring Oil Wiper obviates necessity for replenishing oil supply oftener than twice a year.



You Live on Re-Orders

So do we!—and for 40 years we've prospered

Read what the Rahn-Larmon Co. (builders of Engine, Turret and Gap Lathes), Cincinnati, Ohio, unsolicitedly wrote to our Cincinnati Branch House at the time of **re-ordering** additional Medart Line Shafting Equipment last year:

"Attention Mr. W. P. Taylor, Manager,
Medart Patent Pulley Company,
211 Vine St., Cincinnati, Ohio.

Gentlemen:—Referring to your quotation of November 18th, on shafting, pulleys, couplings, etc., you may enter our order #721 as per the enclosed for \$265.17, delivery 10 days. It might be interesting to your Mr. Taylor to know that the shafting and pulleys are to replace those purchased from you about twenty years ago, and were it not for some necessary changes they would possibly run for twenty years more. It gives the writer great pleasure to order these parts personally from your Mr. Taylor, for he surely made good his promise that there was nothing better on the market when he sold the outfit covering our entire plant of shafting, pulleys and hangers.

Trusting these parts will prove as effective and durable,
we beg to remain

Very sincerely yours,

THE RAHN-LARMON CO.,

(Signed) John Rahn, Pres."

Dict. J. R.

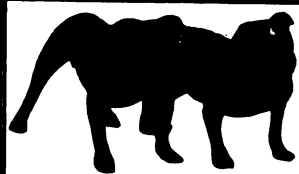
Take our advice—specify the "Medart Line"—it's complete! There'll be no "come-backs" if you use Medart Shafting, Couplings, Collars, Hangers, Bearings, Base Plates, Floor Stands, Friction Clutches, Gearing, Rope Sheaves, Cast Iron Pulleys, Steel Rim Pulleys, Wood Split Pulleys, Belt Tighteners, and so on.

Catalog No. 26 and Supplement No. 1-A, together with discounts, will be sent by request.

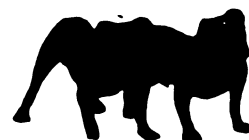
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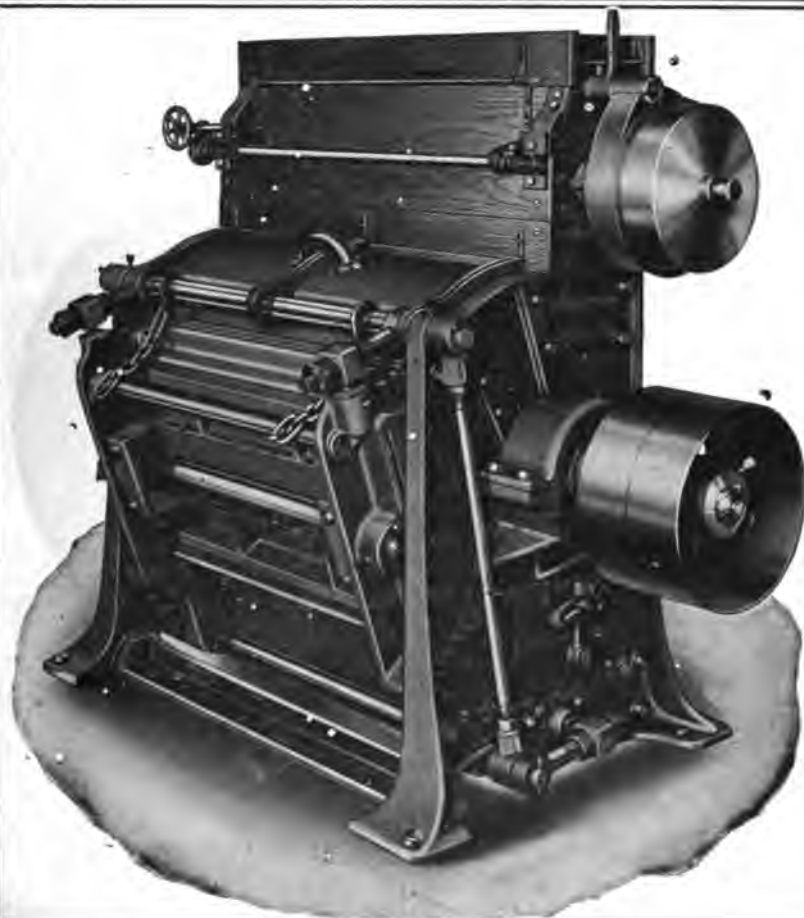


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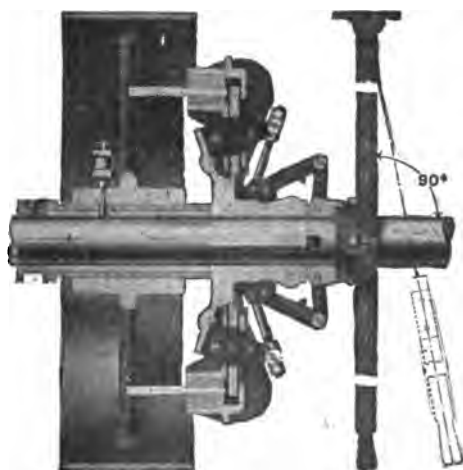
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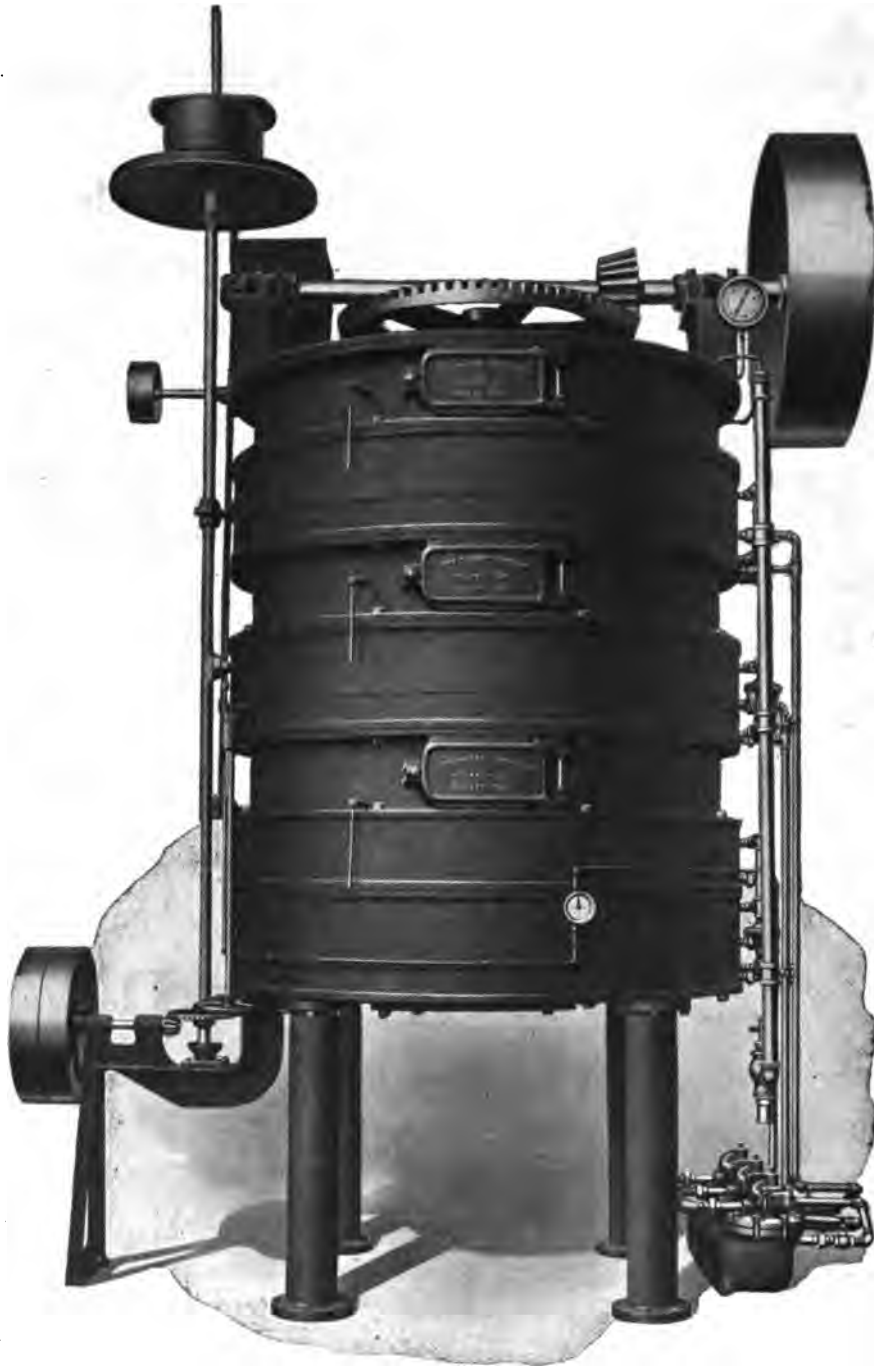
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ATLANTA **DALLAS**

THE OIL MILLER

Vol. 9.

Atlanta, Ga., July 15, 1919.

No. 11

THE OIL MILLER

OIL MILLER PUBLISHING CO.

MARY R. BURRUSS, Manager.

KATHERINE G. BIRMINGHAM, Editor.
Atlanta, Ga.

Subscription Price: \$1.00 per Year.
Three Years for \$2.00

Address all communications to The Oil Miller,
Empire Bldg., Atlanta, Ga.

Advertising Rates Furnished Upon Application.

Entered as second-class matter March 4th, 1913, at post
office at Atlanta, Ga., under act of March 3rd, 1879.

Official Organ Alabama Cotton Seed Crushers Assn.
Official Organ Arkansas Cotton Seed Crushers Association.
Official Organ Inter-State Oil Mill Superintendents Assn.
Official Organ North Carolina Cotton Seed Crushers Assn.
Official Organ Cotton Seed Crushers Assn. of Georgia.
Official Organ Mississippi Cottonseed Crushers Assn.
Official Organ Louisiana Cotton Seed Crushers Assn.
Official Organ South Carolina Cotton Seed Crushers Assn.

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SOUTH AMERICA—AN OPPORTUNITY FOR OIL MILL MACHINERY MANU- FACTURERS.

That our South American neighbors are good prospects for future business we all know and that the United States Shipping Board thinks so is evidenced by the fact that on the first of November the Steamship Mount Vernon will depart for South America with a passenger list of American business men who desire to study conditions there.

The oil milling business is one of prime importance in South America at the present time and manufacturers would make no mistake in having representatives join this trip. As the number of representatives is limited immediate application should be made to Chairman Edward Hurley, United States Shipping Board, Washington, D. C.

ZONE POSTAGE AND PERIODICALS.

Second-class mail matter is being unjustly discriminated against in the ruling which went into effect July 1st, which increases the postage of second class matter according to Zones. This is manifestly unfair not only to the publishers but to the people of our country who live in the West or the South. Because people inhabit a state far removed from the seat of most publishing offices, we are still of the opinion that these people are a vital part of the population of the United States and as such are entitled to receive mail without any added expense either to themselves or the publishers.

Undoubtedly justice and common sense will be brought to bear on this issue before the publishers are forced to make extra charges because some of their subscribers live outside of their immediate neighborhood.

A fair rate for all distances could be established which would equalize the expense and be satisfactory to everyone, the government, subscriber and publisher.

SAFEGUARDING YOUR MACHINERY.

The high cost of living and the high cost of buying almost every commodity which you need must not deter the mill owner or manager from protecting his plant. Now is the time to go over equipment and be sure that everything is in first class shape for the running season. It is the money spent now to keep your machinery in first class condition which will bring you satisfactory returns and save you considerable in the long run.

Just because machinery parts happen to be higher than when you originally purchased is no reason you should put off buying whatever is required hoping for prices to come down. There is no immediate prospect of any great reduction in sight. Yet your plant must be kept up in every way and it is "the stitch in time which saves nine" and will eventually save you many dollars if you delay purchasing what you need in the hope of making a greater saving later on. For while you are still hoping for the readjustment of prices, the neglected machinery is becoming more and more dilapidated and if you do not use wise foresight it may be too late to reconstruct it, at any price.

PEANUT OIL—THE FINEST EDIBLE OIL.

While "as big as a peanut" has heretofore been a term which indicated minuteness, nowadays this same peanut is coming to be looked upon with a growing respect, for in the last few years it has come into its own.

The American public formerly thought it necessary to make a salad enticing that nothing but imported olive oil should dress it, but constant experiment has proved that peanut oil is as pure, richer and equal in flavor to any olive oil. Alfred W. McCann writing recently in the New York Globe says:

"Until civilization got to tearing itself down in August, 1914, most people thought of olive oil as the one and only salad dressing in the world.

"Olive oil did dominate the world, but, like the kaiser, the sultan, and the czar, its dominance is dead. Just why olive oil ran away with popular approval will never be known, unless the phenomenon be explained by means of that extraordinary word 'imported.'

It wasn't the olive oil that held the crowd. All sorts of oils, when compounded in America and offered to the public in ridiculously decorated tins, ornamented with lithographic colors and print that screamed with a European accent, were greedily swallowed as 'strictly orthodox olive oil,' even though there wasn't a drop of olive oil in them.

The records of olive oil adulterations pulled off in this city, Baltimore, Buffalo, Chicago, and other American centers as they are now found in the files of the Bureau of Chemistry and the Department of Justice scream with irony.

Use Substitutes? Pshaw!

"Before the war we were perfectly sure that we just had to have 'olive oil' to be in the fashion. No one wanted to dump his self respect into the ash can by admitting that in his family—no, certainly not in his family—could any substitute for 'really, truly' olive oil be tolerated, though in the mean time the delivery boy was putting on the dumbwaiter a hieroglyphed tin can manufactured on Fourteenth street, into which a shrewd psychologist of the commercial variety had poured a mixture of oils from Virginia and Georgia at prices swollen to three times their natural size.

"Surely we were punished for worshipping the 'imported' god. We never knew, for instance that hundreds of millions of people dwelling on this planet were using peanut oil and glorying in it under its right name, while we were absorbing all sorts of nondescript mixtures for no other reason than that they were misbranded 'olive.'

"Years before the war France had learned to appreciate peanut oil, which in India is known by at least twice the population of the United States as Katchung oil.

"Peanut oil, just like people, is good, bad and indifferent. The best of it, which is better than most of the real olive oil and indescribably superior to all of the stuff that America has accepted as real olive oil, possesses a pale, greenish-yellow complexion.

"United States Department of Agriculture Bulletin No. 746 makes a statement that probably no official ever dreamed would be quoted here. It says: 'The cold-processed peanut oil is Virgin oil. The higher qualities of Virgin oil are due solely to the cold pressing of the nuts. When the nuts are first cooked and then subjected to great pressure, they yield more oil, but it is inferior.

Needs No Further Treatment.

"The cold-process oil needs no further treatment, whereas the hot process yields an oil with a strong taste that must be not only refined but also deodorized. Deodorized oils lose nearly all of their characteristic flavor.'

"Never have I seen the government go out of its way to indorse a product with such enthusiasm. Americans are officially urged to use it in salad dressings, in cakes, and in all kinds of cooking. It overcomes the difficulty experienced in making mayonnaise that will stay smooth and uniform.

"Such words as 'delicious' rarely escape the mouth of hard-headed government officials, but in speaking of this oil, as you will find by referring to U. S. Department of Agriculture Bulletin 746, they use the word for all it is worth."

If the Government Experts, who as Mr. McCann points out are not prone to praise in glowing terms, can speak so highly of Virgin peanut oil, surely we, the consumer, can profit by their tests and take peanut oil to our hearts and tables rejoicing in being able to procure such a highly satisfactory article and, wonder of wonders in these days of high and exalted prices, save money by not finding it necessary any longer to purchase imported olive oil.

The leaders in the American production of Virgin peanut oil whose product can now be found on the market are The E. Clarke Co., Baltimore, Md., and Musher & Company, of Washington, D. C.

Peanut oil to-day ranks third among the vegetable oils, cottonseed and linseed leading it. This, of course, puts it second in rank in edible oils in this country in point of production, but first in point of quality.

The development of the coconut oil industry in the Philippines has been very rapid, due to war conditions. The exports of oil in 1918 amounted to 115,000 tons, as compared to 45,000 tons in 1917, and 16,000 tons in 1916. There is a scarcity of shipping to take.

CAMOUFLAGED ADVERTISING.

By John T. Ashcraft.

There is much for food oil producers to learn about the methods of buttermakers who are eternally fighting the best uses of food-oils.

A great advertising campaign has been organized to promote "a larger consumption of dairy products." This is proper and right, and the enterprise is to be commended, **provided it is fairly and honestly conducted.** Is it being so conducted?

Mr. J. J. Haverty seems to have been designated to prepare certain parts of the advertising matter. In an address read before the Allied Associations meeting at the Great Northern Hotel, June 5, 1919, he explained the theory on which he wrote, "The Foster Mother of the World." He says he has undertaken to re-write Dr. McCollum's "wonderfully interesting story of nutrition, using simplified language so the average child and mother could read and understand it fully." He says that Dr. McCollum cautioned him that,

"The booklet must be written in such manner that the readers would not get the impression that it was written from the standpoint of advertising dairy products . . . therefore," he said, "my task was not one of material, but rather a problem of the employment of elementary terms and phrases **and camouflaging the real purpose of the story.**" (Bold type ours.)

We have not had the pleasure of examining a copy of "The Foster Mother of the World," and so we do not know to what camouflaging methods Mr. Harvey resorts. In this paper of his, however, he says the consumer should be:

"Led to see that milk protein is a better body builder than is meat protein."

And Dr. McCollum says in his "The Newer Knowledge of Nutrition:"

"The proteins of milk are far superior to those of any foods derived from vegetable sources," and "the protein factor in milk may enhance the value of the proteins of the remainder of the food."

Mr. Harvey then underscores:

"There is no substitute for butter."

But Kellogg & Taylor in their splendid book "The Food Problem," say:

"In growing children a certain amount of the fat taken ought always to be milk fat. **If the amount of milk that furnishes the balanced protein be present in the diet of the child,** we may be sure that the essential amount of growth producing substance is also present . . . In the per capita ration of a half pint of milk per day is included the butter fraction that is deemed essential for the health of the people."

And Mr. McCollum says:

"It is easily possible and practicable to give the young child what he needs of this growth promoting

substance in the form of milk and eggs and still allow him to eat a butter substitute on his bread."

And Prof. Graham Lusk, of Cornell University Medical College says:

"If one takes a pint of whole milk daily, or even as we have seen cabbage or beet tops in its stead, one may take fat in the forms of oleomargarine or cottonseed oil without possible prejudice to health."

This cry, "there is no substitute for butter," is pure camouflage and in the same class of camouflaging as that practiced by other big butter authorities of which the following are probably fair representatives:

In The Daily Produce, April 22, 1919, page 26, occurs this paragraph:

"The government has been making observations of soldiers who have been eating oleomargarine and comparing them with soldiers who have been furnished butter. It found the former were not capable of as much endurance as those who used butter and the conclusion is that all soldiers will hereafter be given butter."

The surgeon general was asked to advise if any observation or publication of the kind referred to had been made by the Government. He replied:

"So far as known to this office, no such tests as those quoted from the Chicago Dairy Produce have been made in the army. The Section of Food and Nutrition has conducted numerous dairy studies and its representatives have visited all the camps in the country. No record of any such test of the comparative merits of butter and oleomargarine have been made.

"Upon scientific ground there is no reason to suppose that oleomargarine containing 10 per cent of butter fat as required by army specifications is not in every respect the equivalent of butter. The army has purchased enormous quantities of oleomargarine prepared under these specifications and doubtless will continue to do so for it has given better satisfaction as regards keeping qualities than butter."

Then in an editorial May 30, 1919, Hoard's Dairyman said:

"Wounds of soldiers fail to heal properly when fed on butter substitutes. When butter was given the wounds healed more rapidly and normally."

This editorial statement was communicated to the surgeon general with a request for copy of the Army Surgeon's report giving the facts in full.

To this request the Surgeon General replied:

"So far as this office is aware, there is no evidence that:

"Wounds of soldiers fail to heal properly when fed on butter substitutes. When butter was given the wounds healed more rapidly and normally."

The great butter advertising campaign seems to be one projected into a realm of camouflage rather than into the realm of fact; and this camouflage seems to be intended to conceal an effort to increase the price of butter by creating suspicion and prejudice against oleomargarine, rather than by improving the quality of butter. Is such advertising fair and honest? Will the organs of the Food Oil interests permit the public to be deceived by such camouflage?

**JOINT MEETING OF GEORGIA AND SOUTH
CAROLINA CRUSHERS AT SAVANNAH,
JUNE 17TH AND 18TH GREAT
SUCCESS.**

The joint meeting of the Cottonseed Crushers' Associations of Georgia and South Carolina was held at the Savannah Hotel June 17th and 18th, with the largest number of members of both associations in attendance. Mayor Murray Stewart of Savannah, Ga., delivered the address of welcome, which was responded to by S. C. Fitzsimmons of Columbia, S. C.

A patriotic address by Dr. John E. White, of Anderson, S. C., on "Victory" was received with an ovation and service flags were presented to each association by John T. Dennis, Jr., of Elberton, Ga. The number of men contributed to the war by cotton seed crushers' associations was proportionately as great as that of any industry in this country.

The separate associations each held their own business meeting and the Georgia Crushers were addressed by President H. E. Watkins and the South Carolina Society by President Russell Acree.

The second day's program included address on "Traffic and Rate Matters," by C. E. Coterill, of Atlanta; "Reconstruction and Commerce," by Hon. R. Goodwin Rett, Charleston, S. C.; "Efficiency," by Robert Gregg, treasurer of the Atlantic Steel Company, Atlanta, and on "Insurance," by Wm. F. Dunbar, Manager Southeastern Underwriters' Association of Atlanta.

The election of officers resulted in Mr. E. P. Chivers of Atlanta, being elected president of the Cotton Seed Crushers' Association of Georgia; W. J. Murphy, of Newnan, Ga., vice-president and R. S. Melone, of Atlanta, secretary-treasurer.

The South Carolina Association elected Mr. O. M. Lipscomb, of Ninety-Six, S. C., President; Fred E. Culvern, Kershaw, S. C., Vice-President; W. B. West of Columbia, S. C., Secretary-treasurer.

Every one who was present expressed their satisfaction at the success of this joint meeting and it is likely that in the future there will be more joint State Conventions.

**MR. E. P. CHIVERS, NEW PRESIDENT COTTON
SEED CRUSHERS' ASSOCIATION OF
GEORGIA.**

At the fifteenth annual convention of the Cotton Seed Crushers' Association of Georgia, Mr. E. P. Chivers, of Atlanta, was elected to the Presidency.



Mr. E. P. Chivers has long been a prominent member of the Association having been its secretary for five years and vice-president for a year and in his election to the presidency the association is assured of the untiring efforts of one of its most enthusiastic members.

Mr. Chivers is a native of Decatur, Ga., and has been connected for fifteen years with the Southern Cotton Oil Company, starting as secretary to Colonel L. A. Ranson and now being Assistant District Manager.

**SIXTH ANNUAL CONVENTION MISSISSIPPI
CRUSHERS.**

The sixth annual convention of the Cotton Seed Crushers of Mississippi was held in New Orleans the week of June 16th, with an exceptionally large attendance.

The annual address of the President, J. H. Petty, included suggestions for the establishment of traffic and insurance bureaus. Mr. H. C. Forrester, of Meridian, in his report showed the good condition of the association.

The following officers were elected E. M. Durham, Vicksburg, president; W. G. McNair, Jackson, vice-president; H. C. Forrester, Meridian, Miss., secretary and treasurer.

SOUTHEASTERN PEANUT CRUSHERS' ASSOCIATION ELECT NEW OFFICERS.

On the 19th of June, The Southeastern Peanut Crushers' Association held a meeting at Savannah, Ga., and elected the following officers: B. F. Williamson, Madison, Fla., President; Frank L. Jones, Troy, Ala., Vice-President; F. R. Lamar, Atlanta, Vice-President; R. S. Malone, Atlanta, Secretary-treasurer.

B. F. WILLIAMSON

President, Southeastern Peanut Crushers' Association.

Bailey Finley Williamson, recently elected president of the Southeastern Peanut Crushers Association is in many respects a man of extraordinary business ability and foresight. Mr. Williamson was born at Raleigh, North Carolina, and has since resided in Florida, various points in the southwest and a number of years in Chicago, besides having spent a considerable period in study and investigation in various parts of Europe.



Mr. Williamson received his mechanical training at the Agricultural and Mechanical College of North Carolina at Raleigh. In inorganic chemistry he gained valuable experience in North Carolina and in New Mexico. In the latter state he conducted a stamp mill and did the assaying of gold, silver and copper ores for the Golden Giant Mining Company of New Mexico. His study of inorganic chemistry took him through Wake Forest College, North Carolina, with a course specializing in oils and fats at Cornell University at Ithica, New York. Following this preparation, he became first assistant chem-

ist for Armour & Company at Chicago, devoting his attention to work in oil and soap departments. He was also associated with the Merchants & Planters Oil Company of Houston, Texas.

While identified with Armour & Company, Mr. Williamson studied the production and refining of oils and fats in England, Germany, France and Holland, spending quite a lengthy period abroad in this work. He planned and operated Armour & Company's refineries and the rendering plants for a number of years with the best of success.

B. F. Williamson is now president and manager of the Producers Company at Madison, Florida, operating a six press peanut oil mill. This mill is one of the best equipped in this section and though it has been in operation for a comparatively short time, it is producing a very satisfactory output.

Outside of the oil business, Mr. Williamson is at the head of the Producers Company, operating a bonded warehouse for grain products at Gainesville, Florida, and he is the senior member of the firm of Williamson & Dennis, live stock commission merchants at the Interstate Stock Yards at Jacksonville, Florida. Mr. Williamson is also president of the Florida Live Stock Exchange, an organization of the live stock commission firms at the Jacksonville market, and is a director in the National Live Stock Exchange, which has headquarters in Chicago.

In Florida, where he is best known, Mr. Williamson is recognized as a man of superior ability. He is a deep student of business and economic conditions and an extremely logical talker and reasoner. He has taken an active part in live stock organization work in Florida and is regarded by those who are in touch with the situation as one of the bulwarks of the industry. He is possessed of tireless energy and as far as his work is concerned, has no knowledge of union hours.

Socially, B. F. Williamson is one of the best fellows in the land. One of the easiest things he does is to make lasting friendships. Those who are best posted as to his many excellent qualities agree with the writer that the Peanut Crushers Association is indeed fortunate in securing a man of Mr. Williamson's character as its first president.

When B. F. Williamson is at home, he may be found in Gainesville, Florida, where a devoted wife and four fine children add to the charm of a delightful home.

Among the various uses of coconut oil in India is its application as a mange cure for dogs, for which purpose it is said to be very effective.

LETTER FROM PRESIDENT MORGAN

July 7, 1919.

To Members of I. O. M. S. A.

Gentlemen:

We have all again resumed our routine work after a very pleasant visit at the Annual Convention, and wish to extend our thanks and appreciation to the Machinery Men's organization for their courtesy to us and the very enjoyable entertainment afforded us.

We look forward eagerly to our yearly visits at the Convention and in return are always glad to welcome their representatives at our mills to talk over their products and if they can suggest any improvements in the mill, it is always appreciated by us.

We are now in the midst of making our repairs, trying to get things in line for another run and have a good many knotty problems to solve, changes to make etc. The one problem than confronts us most prominently is the higher operating cost as fuel, press cloth and labor increase in price. The only way out seems to be to get more tonnage through the mill with the same labor. We do not expect to cut so much lint from the seed as heretofore, therefore can easily produce more tonnage.

We will not have Uncle Sam's guiding hand with us this season and will be thrown more on our own resources as to how we will regulate our Ammonia when cutting less lint. Our separating machinery is fixed for close linting so we will have to devise some way to make the necessary hull brand to feed in at the cake mill to produce the same amount of ammonia in meal that we have been making heretofore. In this section we have to make arrangements for both peanuts and cotton seed which is more complicated than for cotton seed alone.

I wish to call your attention to the fact that The Oil Miller has kindly offered us their space for letters from all the oil mill superintendents. This would be very interesting to all of us. If you have troubles or knotty problems to solve, or any subject that would be interesting we would all be glad to have you write The Oil Miller and let us help you, or enjoy reading what some of you are doing. Lets get together with suggestions and all pull for the good of the association.

Very truly yours,

J. H. MORGAN, President.

A large vegetable-oil mill has been opened at Andalas, near Padang, Sumatra. It is owned and operated by oleomargarine interests of the Netherlands, and insures its promoters a steady supply of vegetable oils.

OIL MILL INDUSTRY OF TOMORROW

A paper read before the Interstate Oil Mill Superintendents' Convention at Atlanta, June 4th, 1919, by J. W. Coon, Sanford, N. C.

To the Officers and Members Interstate Superintendents' Association:

This subject is one susceptible of exhaustive discussion and criticism for I may view the subject from an entirely different angle to what others may but it is only through intelligent discussion that we arrive at definite conclusions. In preparing this paper I present individual views based on the past, for we have no way of judging the future but by the past. So judging by the past, the cotton seed oil mill industry is yet in its teens, having successfully passed infancy and advancing I might say rapidly to maturity. Many of us no doubt can look back twenty years and realize the comparative crudeness of the mill, when a 2% separation and 10% extraction was considered good milling. This is no wonder when we take into consideration the crude machinery and the inexperience of the Superintendents. While the improvements have been gradual they are no less wonderful. This has been accomplished in a large measure by our associations, the Superintendents, Managers and machinery supply men being brought together and co-operating has evolved improved machinery, some of which is almost humanlike in operation. Not only have these improvements enabled us to reduce our separating loss to less than half of one per cent, our extraction to less than five per cent and double our lint yields but they are labor saving machines as well thus enabling us to materially reduce the working cost so much that a mill of twenty years ago could not possibly compete with an up-to-date mill run by an up to date superintendent. Almost every year new and improved machines are put on the market, some literally speaking are worth their weight in gold.

We as superintendents have to scratch our heads and think to keep abreast of the time but our thinking apparatus will finally wear out and then our places will be filled with younger men who are being practically and technically trained. The machinery of today will be antiquated and sent to the rear with us. It will be amusing to our successors to know we as pioneers got 25 to 35 lbs. of lint and 25 to 35 gallons of oil per ton of seed and left enough meats in hulls to make them valuable fuel, filed our linters saws by hand and set our hullers about every month. We laughed at the idea of a chemist to analyze our products. Could we see as far into the future as we can into the past no doubt it would be a revelation almost beyond our comprehension. I do not doubt that in the near future railroads, steam ships, automobiles, telegraph and telephone wires will be things of the past. hTe delicate

sound waves in the upper air will carry our voices to Europe, we will be transported to our annual conventions by magnificent airships, our products carried and distributed by mighty air vessels. It would be sacrilege to think the oil mill industry will not make equally as wonderful strides. The proud Corliss engine will give place to electrical current, we will cook our meats by electrical heat, we will reduce our separating and extraction losses to zero with scientifically improved machinery. It is not only possible but probable that every drop of oil and every dust of meal will be saved and utilized. There will be absolutely nothing lost but the squeal. The mills will refine their own oil, there will be a chemical laboratory in every mill making hourly tests. The Superintendent instead of wearing overalls and grimy face and hands and doing three men's work will sit in a luxuriantly appointed office directing the little labor he may use by wireless phone. I know it is hard to think of, and harder to realize that an oil mill superintendent can ever have a soft job, so was it hard to realize that a man here in Atlanta could talk to man in New York, that a wireless message can be sent and received thousands of miles—that air ships can sail through the air at a speed of 150 miles per hour nevertheless they are facts.

How many of you five years ago would have thought it possible to cut more than 200 lbs. of lint from a ton of seed? Still it has been accomplished. If the dreams of the past have been materialized why should not dreams of the present be materialized in the future. The oil mill industry has passed the experimental stage—it has become an established necessity. Millions of dollars have been spent educating the people up to this point, perhaps millions have been spent improving machinery till now it ranks with the greater industries of the world. Cotton seed products are being sold and shipped to almost every part of the world; still who can say the industry has reached the pinnacle to which it was destined. The most extravagant dreams at present would be tame compared to the ultimate perfection to which the industry is destined. If history is applied to this as it has been to the other great industries the operations of the mills all over the south will be directed from one general office, eliminating seed fights and the cut throat methods of disposing of products? In other words prices will be stabilized, we will have a ready market for the products. The mills that are equipped with the best machinery and the best Superintendents will make the most money. The old idea of getting the tonnage through the mill regardless of other considerations is fast passing, but getting everything possible out of a ton of seed

is the prevailing slogan, hence the craze to perfect machines to this end.

The labor situation is another problem we are facing and with which we will have to reckon more seriously in the future. The whole trend of labor is for shorter hours and more pay which means eight hour shifts, three crews for 24 hours for oil mills. I am persuaded to believe this will really be a blessing in disguise that is if the eight hour system becomes a general law. With restricted immigration and already a shortage of labor we may as well prepare to pay more for labor, even more than we paid the past season. With three crews to pay living wages, the idea is to make every man 100 per cent efficient. Coupled with improved up to date machinery there is no reason why our mills should not pay dividends. But no superintendent or manager should allow himself to be betrayed with a kiss for while we admit the future promises good we cannot relax our efforts, with three crews to manage sharp competition and small margin for profit will rather add to our burden, but the average superintendent is made of such material that he can adapt himself to even the most strenuous conditions and still smile. To such men FAIL is a foreign word, and CAN'T is not in his dictionary and he sees a brighter day dawning for the oil mill industry.

PEANUT OIL IN FRANCE SINCE 1825.

While the production of peanut oil is new in this country France has been producing peanut oil since 1825. At Bordeaux, so states a U. S. Commerce report, peanut oil has been produced since 1867. There are a couple of refineries at Marseilles which have a daily production of 77 tons of superior peanut oil and 100 tons of edible peanut oil cake. This Marseille plant has been established since 1825 and draws its raw product from the West Coast of Africa, transporting it in their own steamers.

The peanuts treated at Bordeaux are brought in from the West Coast of Africa and the four mills there have a capacity of 320 tons of peanuts in the shell every 24 hours or 96,000 tons yearly with an annual production of approximately 30,000 tons of oil of the best quality.

PRESS CLOTH MANUFACTURER TO THE ORIENT.

Camel hair which has for so long been used in the manufacture of press cloth is now being found that human hair is an excellent substitute and even improves the quality of the cloth. This is the reason for the success of Lee, of Augusta, Ga., has sailed to the Orient to cure Chinese prejudices for the Press Cloth Co., of which he is

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CHANGING FROM WAR TO PEACE CONDITIONS.

(A paper read before the National Oil Mill Superintendents' Association, Memphis, Tenn., May 28th, by W. E. Copenhaver, of The Bauer Bros. Co., Springfield, Ohio.

Mr. President and Gentlemen of the Convention:

It is safe to say that no oil mill operator—six months prior to the outbreak of the European War—could have foretold the important part that the cotton seed oil mills took, or played, in the World War.

The despised lint—that troublesome factor that was a drug on the market—jumped as if by magic into a most important place. Instead of being a partial loss, it took a major rank as a profit maker.

Forty (40) to eighty (80) pounds of lint from a ton of seed was increased by order of the war lords to as high as 180 or even 200 pounds per ton of seed, after Uncle Sam issued his edict. And it is needless to tell you oil mill experts anything regarding that phase of the proposition. You know full well that it changed Oil Mill practice as if by magic.

The conditions confronting you were met in a highly satisfactory manner, as the results fully confirmed. You know that the Pneumatic System did remove the objectionable lint and excess hulls from the meats, thereby sending meats to the press room in very much better condition than had ever before been possible. You know that this resulted in placing more oil in your tanks, even where the same press room equipment was employed—than had ever been accomplished before—and this condition was due directly to the removal of the lint from the meats—it being a well known fact that the lint in passing through the presses absorbs several times its weight in oil. It is a matter of record that these results were accomplished with one-third less machinery, which means saving many dollars in equipment, to say nothing whatever relative to the resultant saving in up-keep, power and running expense. In short, it cut your overhead in a most satisfactory manner.

On the memorable eleventh of November, 1918, came the signing of the armistice—an event not generally looked forward to for at least a year later. Then, like a thunder-bolt out of a clear sky came the cancellation of your linter contracts, and changed the whole system into a state of chaos.

This whole system of separation changed in the twinkling of an eye, so to speak—the lint was no longer desirable or profitable feature, and the machines that had done such splendid work under war conditions were thought—by many oil mill men—to be obsolete. Something had to be done and

done quickly, because it was not longer possible to produce meal and cake of desired quality, because the ammonia and protein contents were no longer under your control. Now, what were you to do—go back to pre-war practice? Some did so, but with no satisfaction whatever, because the lint that went into the presses with the meats robbed your oil tanks of many gallons of oil during a season's operation. In short, you did not get as many gallons of oil per ton of seed under the old method as you did under the war-time practice; knowing as you did that the removal of this objectionable lint by the pneumatic method did increase your revenue from oil, you were still in the dark owing to the fact that you could not get sufficient hull bran to control the ammonia and protein content of your meal and cake. Hull bran you must have in order to produce your standard grades of meal, but how—by what method were you to obtain it? All agreed that it must be obtained with the least possible expense, by the fewest machines, and in such a grade as to be unobjectionable, and that if possible it must not detract from the physical appearance of the finished product (meal).

Then again, your hulls must not be so treated as to lose their market value. You had to have the hull bran with no sacrifice at the expense of the hulls.

Many of you know that this problem was successfully solved, and that you can now get just as many gallons of oil from your meats as during the closely linted period, and that you can absolutely control the ammonia and protein content—that you need not injure your hulls—and that you can get high grade hull bran in abundance.

This question naturally arises, has the Government control of oil mills been beneficial? Let us look the question squarely in the eye. There are, to my mind, some benefits to be gained.

You will remember that the Government divided the oil mill territory into zones and insisted on a fair return for your labor and investments. There is no reason—barring the question of the price of linters—why you should not get just as fair a return now as you did then. You were forced to do the things that were a God-send. Why should the oil mill men go back to pre-war bad practice? The answer is obvious. It is more essential that you "carry on" now than ever before, and I believe you will do it. There is no cause for pessimism, and it is for you to decide—man to man—what you will do. When Senator Sherman was asked—"How are you going to resume specie payment?" he said, "The way to resume is to resume." The way for you to do is to hold fast to what you have and keep a tight hold on it. Be like the nigger, who had hold of the bear's tail—hang on, for therein lies your peace of mind and prosperity.

SEPARATION AND PREPARATION OF MEATS FOR COOKING.

**A Paper Read Before The National Oil Mill
Superintendents' Association, Memphis, Tenn.,
May 28th, By T. J. McNulty, Brook-
haven, Miss.**

Mr. President, Ladies and Gentlemen:

This subject of separation has been discussed at these meetings for the past 24 years for the reason that it is one of vital interest to all of us. It is therefore with some hesitation that I endeavor to bring out new ideas before you, a body of practical and experienced men, for the better preparation of meats. It doing this I realize that the same ideas have probably suggested themselves to some of you before I thought of them, however, if I am able to set before you suggestions that will be of benefit I shall feel that I have done what has been requested of me.

The lint room is to be thoroughly discussed at this meeting, therefore I shall not go into that part of the operation although I realize that separation should start at the linter room, however, we will pass on to the hullers where we shall take up the separation. In a mill of four presses or more, there should be at least three hullers, two knife and one disc or regrinding huller. The two knife hullers should have the seed divided between them, in other words, half the seed should go through each of the knife hullers, and from them to the shakers underneath. These should have sufficient area of proper perforation to separate all of the meats before they reach the end of the shakers. Just at the end of the shakers the hulls are lifted by an air suction which carries them to a cyclone over your first beater. This beater should get any fine dust that is left in the lint on the hulls and is equipped with a shaker under it. The perforation being of such size that lint will not pass through them.

The tailings or hulls from this first beater go directly to the disc or regrinding huller, which should be so arranged that you can grind a portion of your hulls, or all of them if you see fit. This disc or regrinding huller is used to make hull bran. Directly under this huller there should be a beater and shaker, the shaker covered with perforated metal, the perforations being of such size that the lint will not go into the hull bran, thus leaving you clean bran with which to regulate your ammonia. This bran should go directly to your heater and not through rolls.

A shaker should be placed over the rolls, covered with perforated metal, the perforation being of such size as to let any fine meats pass through before they reach the end of the shaker where a suction lifts the course hulls thus separating them from the meats so that the meats will be as clean

as possible when they reach the rolls.

The hulls from this suction pass to the regrinder or disc huller. In this system there is nothing returned for further separation or rehulling with the exception of the hulls that are separated from the meats at the rolls.

If it were possible to separate and remove every particle of hulls from your meats and replace it with bran, you would get much better results in your press room. You will see that I have avoided the use of conveyors and elevators as both help to increase absorption.

"NO REDUCTION IN PRICE OF MACHINERY."

The last week in April there was held in Chicago a meeting of the Foreign Exporters of the United States. Mr. John H. McDonough, President of The Murray Company of Atlanta sums up his view of this gathering as follows and we believe that his is a fair and square outlook of the situation as it is to-day and is likely to be for the future and worthy of the thoughtful consideration of every oil mill man.

"The meeting of the Foreign Exporters of the United States was a coming together of the heads of manufacturing institutions in the United States who are now being looked to to supply the world with a large part of its needed commodities. During the three days' session I had the privilege of hearing some of the biggest business men of the United States speak. They were speaking as one brother business man to another brother business man and they got down to the very bed rock of conditions as they now exist and forecasted the potentialities of the future.

A digest of world conditions, based on authentic statistics showed that products of iron and steel not only stand no chance to decrease for possibly several years, but on the other hand indicate a possible if not probable, increase. Europe is practically wrecked and must be rebuilt. Her mines have been flooded in a large number of instances and the machinery carried away, or wrecked. In the reconstruction large quantities of iron and steel will be needed and the United States will be expected to supply it. To do this every one of our factories and mines will be taxed to their capacity and the surplus will vanish so that when buying these products we will have to compete with the eager European industrial rehabilitator. This means that as soon as the peace treaty is finally signed and embargoes are lifted, because of the demand for iron and steel from Europe, the prices on them stand a very good chance to advance.

"It was further shown that because of the number of men killed in Europe,—about 9,000,000,—there is a real labor shortage there and many of

(Continued on page 24.)

How Many of these Machines Does Your Oil Mill Require?



Men are machines in the manufacture of oil.

Figure what the permanent value of your press room laborers would be if you paid for them outright as you do your machinery.

A "Man Machine" working with the regularity of a mechanical device would be worth at least \$400 for the season or 10% on a \$4000 investment.

A three press hydraulic mill requires 8 men (2 shifts) in the press room each 24 hour day or the equivalent of a \$32,000 investment over and above the original cost of the machinery.

ONLY 2 MEN ARE NEEDED IN AN EXPELLER MILL OF EQUAL CAPACITY or the equivalent of an investment of \$8000.

AN EXPELLER EQUIPMENT (equal in capacity to a three press hydraulic mill) GIVES YOU AN INSTALLATION REPRESENTING AN ADDITIONAL VALUE OF \$24,000 IN "MAN MACHINERY."

When the three shift plan is adopted the additional value will be \$36,000.

Efficient Mills are Expeller Mills

BURRUSS ENGINEERING COMPANY

Sales Agent for the Anderson Expeller

Empire Building

Atlanta, Georgia

What Do You Pay for Press Cloth Each Season ?

INVOICE

CAMELS HAIR PRESS CLOTH CO.

New York

DATE 3/6/1919

SOLD TO Hydraulic Oil Mill Co.
Mill Town N.S.C.

TERMS Cash

1 Roll 350# Camels hair press cloth @ \$20 per lb.	\$420 ⁰⁰
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This kind of an invoice is common, but what would you pay for a set of cloths that would last as long as your press?

Figure:—Working 1500 tons a season at 25 cts. per ton of seed worked, the press cloth expense is more than \$375.00 for one press one season—over \$1000.00 for a three press mill, or 10% on \$10,000.00.

For a three press mill a \$10,000 investment would be profitable to secure a set of cloths that would last as long as your presses.

AN EXPPELLER MILL USES NO
PRESS CLOTH.

For this reason alone an expeller press room equipment of equal capacity is worth \$10,000.00 more than a three press hydraulic equipment.

Economical Mills are Expeller Mills.

BURRUSS ENGINEERING COMPANY

Sales Agent for the Anderson Expeller

Empire Bldg.

Atlanta, Ga.

the foreign born that our iron and steel mines and mills had depended upon for labor, are returning to their native countries. Strange as it may seem, wages to labor in Europe are now higher than they are in the United States, everything being considered, so the foreign population of this country is being rapidly depleted. They are returning to their own homes to live, and work.

"What does this mean to the South? It means that for three or four years at least there is no possible chance for ginning and oil mill machinery to be any cheaper and there is an actual danger of it being higher next year. We have many thousands of customers in the South, where three-fourths of the world's supply of cotton is grown, and I can conscientiously advise them to buy machinery this year, believing that in so doing I am serving their best interest. It means something for the ginner to have his plant in such condition that he can run without interruption throughout the year. The types of machinery that we are now selling are such that they will give a maximum of service for a great many years, and, inasmuch as there is no chance for this machinery to be lower in price, since the price of steel and labor regulates the price of the finished product and we have every assurance that these will be no lower, I believe that every ginner should hesitate no longer about buying the new machinery and supplies that his plant needs. This applies also to oil mills. Reports for a big crop are very flattering and I believe that we have every reason to be optimistic over what the future holds.

"I do not believe there is anything to fear because of the acreage reduction campaign, because I feel sure that the program will not be carried out to any appreciable extent, nor should it be. Cotton is the crop of the South and the world looks to the South for a large part of her supply. If we fail to furnish the required amount, some other country will step in and take our place. My idea has been, and still is: Let the farmers of the South raise enough food and feed for their own use, and devote the rest of their time and land to the raising of cotton, the sure money crop."

Mr. Chas. G. Sherman, formerly connected with the Main Belting Company, of Atlanta, is now Southern Sales Manager of the Imperial Belting Company of Chicago, Ill., manufacturers of canvas belting.

The Cheraw Oil & Fertilizer Company, Cheraw, S. C., will enlarge its plant having recently increased its stock to \$125,000.

EFFICIENCY BULLETIN.

The war has taught business the value of co-operation. The war has also shown what industries are really essential for the welfare of the human race. This last lesson has been forcefully presented to the oil seed crushing industry. The products of this industry were of inestimable value to the nation. Considering only those products which are of value irrespective of whether there is war or not there is a big lesson to be learned. The lesson is to operate your mills so that the nation will receive the greatest returns. In doing this, you will reap the highest returns. A few illustrations will make this clear.

As we stated in our last letter, efficient oil milling next season will be the deciding factor between profit and loss. Efficient oil milling conserves food resources and thus the efficient oil mill not only aids itself but the community at large. All signs indicate a world shortage of fats. The efficient mill will help to reduce this shortage by increasing the amount of available oil.

In order to obtain a larger crush, some mills store seed in the open. There are no objections to the large crush, but there are serious objections to storing in the open. With low priced seed and a rising market, a mill might make money by this procedure. The nation, however, would lose by the amount of deterioration of the seed. With the present high price of seed, storing in the open would be worse than folly, it would be criminal. The chance that products could increase in value sufficient to offset the deterioration in seed and show a profit are very slight. That being the case, both the mill and the nation loses by the policy of storing in the open.

The same idea underlies the plan of storing crude oil and carrying into the summer months for the purpose of obtaining a higher price for oil. The deterioration of crude oil during the summer is very rapid. With oil starting high in price, it is extremely doubtful if it could increase in price next summer, enough to offset deterioration and show a profit. Again both the mill and the nation lose.

While there are some men who will not agree with the above, all will have to agree that both the mill and the nation suffer a loss when an unnecessary amount of oil is left in hulls and cake. This is one point on which we all agree. However, this is as far as the agreement goes. Some mills repair their machinery, check the oil in their hulls and cake occasionally and trust to luck. Other mills analyze their cake and hulls regularly, but the results. It is this latter group that will improve operation. Others getting regular results use the results as a basis of experimenting to improve their results.

In the past, in many years, a rising market allowed an oil mill to make money even though its policy caused an actual economic loss to the nation. During the coming season increases in the price of cottonseed products cannot be much because prices are already high. In the years after next season, prices will have downward tendency, with the prospect in view of a world wide economic crisis causing a sudden slump. The mill that adopts the Rotarian Motto, "He profits most who serves best," will survive. Mill efficiency is not the result of sudden growth but is the result of accumulated experience. The time to commence improving milling efficiency, if you have not already started, is now, not when prices start to drop.

THE FORT WORTH LABORATORIES,
Per R. H. Fash, V-Pres.

Wanted—A good superintendent for our Press Oil Mill. One who knows how and will get good results and keep up the machinery. State experience you have had and salary you will work for in the first letter. Donalds Oil Mill, J. W. Brock, President, Honea Path, S. C.

WANTED—Young married man with experience and training that would be of value to independent oil mill desires position as bookkeeper or assistant manager, Address P. O. Box 1521, Savannah, Ga.

WANTED—Superintendent to take charge and build a new four press oil mill. Sampson Oil & Fertilizer, Clinton, S. C.

The development of the cocoanut oil industry in the Phillippines has been very rapid, due to war conditions. The exports of oil in 1918 amounted to 115,000 tons, as compared to 45,000 tons in 1917 and 16,000 tons in 1916.

A manufacturer in Argentina desires to purchase machinery and accessories necessary to install a plant for the manufacture of oleomargarine. Terms, cash against documents at destination. Correspondence should be in Spanish. References.

Although the copra industry in the Federated Malay States suffered quite a setback in the past year because of the lack of shipping space, it is expected that this trade will revive when these conditions have been remedied. Until the end of 1917 the exports of copra showed marked increases. The amount exported during that year was 47,162,900 pounds, as against 33,205,000 pounds in 1916.

EXPORTS OF COTTONSEED OIL FROM THE UNITED STATES DURING MARCH, 1919.

Countries	Cotton Seed Oil	
	Pounds	Dollars
Denmark	390,000	\$ 85,501
Italy	237,911	56,496
Netherlands	650,000	1,255,251
Norway	224,464	664,725
Serbia, Montenegro, etc	24,814	4,480
Sweden	356,800	304,129
Switzerland	240,000	485,000
England	175,127	541,159
Bermuda	815	205
Canada	277,461	228,508
Costa Rica	16,908	5,421
Gautemala	22,102	6,213
Honduras	3,119	760
Nicaragua	4,713	1,341
Salvador	524	133
Mexico	24,556	5,756
Newfoundland and Labrador	77,890	17,352
Jamacia	32,668	7,633
Trinidad and Tobago	7,962	1,993
Other British West Indies	15,930	4,330
Dutch West Indies	7,829	1,922
French West Indies	150,519	35,808
Haiti	5,085	1,321
Dominican Republic	201,344	49,454
Bolivia	900	300
Brazil	13,121	3,466
Chile	99,300	22,150
Colombia	21,912	6,821
British Guiana	9,765	2,284
Dutch Guiana	38,695	8,395
French Guiana	284,125	61,960
China	7,322	1,637
Hongkong	1,574	355
Japan	4,231	1,160
French Oceania	1,168	323
German Oceania	97	23
Philippine Islands	1,275	332
British West Africa	17,825	4,075
British South Africa	6,060	1,147
British East Africa	12,000	2,700
Total	19,667,910	\$3,882,192

When Hawker and Grieve were thought to have come to grief, the little Danish steamship which came to their rescue was one which had cleared from New Orleans, April 26th loaded with cottonseed cake for Denmark. If Hawker and Grieve had never heard of cottonseed cake before, it is certain that they will always remember it as their friend in time of need.

MEMPHIS AND THE DELTA

(Giles B. Bond, Memphis, Tenn., Special Correspondent for Oil Miller.)

WORK BEING PUSHED ON SWIFT & CO'S. OIL MILL.

A temporary switch has been completed to the site in southeast Memphis in which Swift & Co. is to build its \$1,000,000 Cotton Oil Mill, Refinery and Lard plant. A large force of men is at work clearing the site and preparing for immediate work on the buildings. Material is expected to begin arriving within a few days.

The Company's construction department will supervise the erection and it is expected that the oil mill will be ready for operation the coming season. It is to be a 12 press mill. The refinery and compound plant will be erected later.

The new Refinery, Lard and Soap plants being erected by the Proctor and Gamble Company at Dallas, Texas, will be the largest in the country it is understood, with the exception of the Ivorydale plant. No oil mill is to be built for the time being, but may be added later.

The Shelby County Cotton Oil Mill of Memphis, owned by Swift interests which recently sold its plant, has purchased about 25 acres of land in the Southeastern part of the city of Memphis on Lamar avenue and I. C. & Frisco Railroads, and will build a new modern oil mill. Mr. R. M. Stevenson, who has been managing the Swift mill at Forrest City, Arkansas, has been appointed manager of the new mill and is a welcome newcomer to Memphis, as he is very popular with all who know him.

Mr. Phillip Hicky, who has been manager of the Southport Mill, Ltd., of Eunice, Louisiana, has been made manager of the Forrest City Cotton Oil Mills, Forrest City, Arkansas, one of the Swift mills, succeeding Mr. R. M. Stevenson, who is now manager for the same interest in Memphis.

The DeSoto Oil Company of Memphis, has sold its Greenville, Mississippi, oil mill to J. R. Jones, of Leland, Miss., and associates who are making the necessary repairs and will soon have it in operation. This plant has been dormant during the past two seasons.

Mr. R. J. Lanford has been appointed manager of the Union Seed and Fertilizer Company at Little Rock, Ark. He was formerly assistant division manager for the same company at Memphis. Mr. Lanford succeeds Mr. W. A. McColloch, who has gone with the International Vegetable Oil Company at Augusta, Ga.

Mr. E. E. Clarke has been appointed district manager of the Southern Cotton Oil Company with headquarters at Memphis, succeeding C. D. Jordan who is now located in Shanghai as foreign representative of the same company. E. E. (Ned) Clarke has been acting district manager during part of the present season and his appointment is the acknowledgment of his efficiency. Mr. H. A. Boldt has been appointed assistant district manager.

The Shelby County Cotton Oil Mill of Memphis, which was owned by the Swift interests was recently sold to E. T. Lindsey and associates. Mr. Lindsey who has managed the mill for a number of years will continue to operate it. The new company will be known as the Bellevue Cotton Oil Company, the old name having been retained by the former owners. Ed Lindsey is one of the most popular managers in this section and will doubtless be successful with his new company.

The Benzoni, Mississippi, Oil Mill, owned by Grenada Oil Mill, Grenada, Miss., has recently been sold to J. H. Petty, of Indianola, Miss., and associates who will operate it in future.

The Natchez Oil Mill, of Natchez, Miss., which was destroyed by fire during the present season, will be rebuilt shortly.

W. C. Northern, of Little Rock, dealer in cotton seed products, has arranged to move to Memphis and will be ready for the coming season's business in his new location.

E. E. Burke and associates, have organized the Helena Cotton Oil Company and have purchased the Union Seed & Fertilizer Company oil mill at Helena, Ark. Mr. Burke, who has managed the mill for a number of years will operate it for the new company. Extensive improvements are being made in order to have it ready for the new season.

The DeSoto Oil Company of Memphis, is replacing a section of its seed house with a new brick structure.

The New South Oil Mill, Helena, Ark., is replacing its old seed house with a new modern structure.

The North Carrollton, Miss., oil mill has recently been sold to Mr. Frank Jones, of Greenwood, Miss., who is remodeling it and increasing the capacity to a four press mill and will operate it in future.

Mr. L. P. Brown has been appointed assistant division manager for the Union Seed and Fertilizer Company, Memphis, succeeding Mr. R. J. Lanford, who was transferred to Little Rock. Mr. Brown formerly as manager of the same company's mills at Jackson and Trenton, Tenn.

Mr. L. B. Davis has been appointed manager of the Union Seed and Fertilizer's mill at Jackson, Tenn. Mr. Davis was formerly cashier of the same mill.

Mr. R. H. Patterson has been appointed manager of the Union Seed and Fertilizer Company's mill at Trenton, Tenn. Mr. Patterson was formerly cashier of the same mill.

The Ripley Oil Mills, Ripley, Tenn., was sold early in July to Mr. W. G. L. Rice, of Ripley. Mr. Rice has been vice-president and manager of the mill for several years.

The Bosworth Bag Company and the American Bag Company of Memphis, are both building new additions to their plants.

Mr. W. G. McNair has been appointed manager of the Benzoni Oil Mill, Benzoni, Miss. He has resigned as manager of the Buckeye Cotton Oil Company, Jackson, Miss., and no successor has been appointed at this writing.

FINE COTTON BEING RAISED IN CALIFORNIA AND ARIZONA.

California and Arizona are coming strongly to the front in the growing of high grade cotton. About 250,000 acres were grown in the irrigated districts of California and Arizona during 1918, California having planted 181,000 acres and Arizona 87,000.

The United States Department of Agriculture experts who have made a study and are largely responsible for the growth of the cotton industry in that section, state that the Egyptian and other special extra-staple types are especially suited for this part of the country. These types are not reliable in the South Atlantic or Gulf States, but the warm, drier climate of the West is particularly adapted for them. It is anticipated that increased acreage will be planted yearly.

About the middle of June, the Sylvester Oil and Fertilizer Company's plant at Sylvester, Ga., was almost completely destroyed by fire. The damage was about \$50,000 partially covered by insurance.

The Consumers Cotton Oil Co. will build a cotton oil mill to cost \$300,000 at Memphis, Tenn.

"ESSENTIALS TO SUCCESS WITH PEANUTS."

For those who are planting peanuts this year and particularly those who contemplate planting them on stubble land as a second crop after their grain, the following article by Prof. J. F. Duggar which recently appeared in *The Progressive Farmer* will be of particular interest.

During the past few months many farmers have raised the question whether or not they should continue to plant peanuts freely. A month ago many had answered this question in the negative. Now conditions are changing to the extent that they justify a reconsideration of the extent to which peanuts should be planted this season. In so doing, we shall need to consider some of the causes why last winter the demand for peanuts slackened and the price dropped. Among the most prominent of these causes were the following:

1. The overcrowding of the cotton oil mills with cotton seed.
2. The limit of price fixed for cotton seed and its products.
3. The importation of low-grade oils from foreign countries, partially as a by-product in connection with the importation of other material needed in war industries.
4. The average poor quality of the peanut crop of 1918 due to frequent rains throughout the harvesting period and after the peanuts were stacked.

At the time this article is written, most of these causes for a depression in demand and price have disappeared, oil mills and other parties being actively in the field and purchasing freely at prices considerably above those prevailing a few weeks earlier. Moreover, the price of hogs has increased considerably within the past few weeks, and every advance in the price of hogs is an argument for the planting of larger areas of peanuts in those parts of the Cotton Belt where the peanut has become the principal feed of the hog. Hence, the writer's conclusion is that general conditions now warrant a more extended planting of peanuts than would have been justified a few weeks ago. Before making such an extension of planting, each farmer should determine that he will be able to have a choice between marketing his peanuts directly or converting them into pork. In order that the route through the hog may be available, it is necessary to consider whether the fields in which peanuts are to be grown are already fenced or can soon be fenced securely. It is also necessary to have in sight a supply of young pigs, either raised, or that may be purchased if it proves more profitable in the fall to convert peanuts into pork than to sell them as peanuts.

Plant Pure Seed.

It is no more important for the farmer who wishes to convert his crop into pork to consider the condition of fencing than it is for the farmer who intends to sell his peanuts to the oil mills, to the roaster trade, or to the confectioners to insure the planting of only pure and unmixed seed. Until recently but little attention has been given to this point. This neglect has been natural, in view of the fact that the buyers a few years ago paid no more for pure than for mixed peanuts. As the crop has increased in volume and prices have risen to a higher level in recent years, buyers have naturally become more particular and are more anxious to pay a premium for unmixed varieties according to the special purpose in view. The standard adopted in Alabama and upon which many of the peanuts of this and other states are now being sold contains expression of this tendency of commercial buyers to pay a higher price for exactly the grade of nuts that they wish to buy. Attention is called to the fact that in this standard a sample containing more than 2 per cent of a mixture of some other variety is classed as "mixed peanuts," which lowers the price, especially for the trades that pay the highest prices.

Every farmer should examine very carefully his peanuts intended for planting, and if he finds any mixture of other varieties and, especially, any mixture of Red Spanish, he should either hand-pick the seed, or, in the case of large-scale planting, should sell the mixed sample for oil production and purchase new and unmixed seed.

Thick Planting Best.

The average yield of peanuts, according to the writer's observation, is frequently reduced from 10 to 30 per cent as the result of defective stands or insufficient thickness of stand. Thick planting is especially necessary for the Spanish or any other bunch variety. The largest yield of peanuts, reported namely, 183.9 bushels of 28 pounds each, was grown on an acre of land in Alabama where the rows were only seventeen inches apart and the spaces between the plant only four inches.

Among the advantages of letting peanuts take the place of some of the acres that would otherwise be devoted to cotton are the following:

1. The smaller amount of hand labor required to produce an acre of peanuts than an acre of cotton.
2. The enhancement in the price of cotton produced in 1919 and that held from 1918 by every acre on which peanuts are thus substituted.
3. The fact that the peanut is not attacked by any widely prevalent and destructive insect pest that does damage comparable to the cotton boll weevil.

MANUFACTURE OF SEED OILS AND OIL MEAL IN DENMARK.

The growth of the vegetable oil manufacture has lead to the establishment in Esbjerg, Denmark of a plant which is to be very extensive in its operations. A recent commerce report states that this industry is to be conducted in Esbjerg in a plant that has been under construction for about a year and which will be completed for all practical purposes by the middle of May, 1919. The plant will be employed to manufacture oil from copra beans, or soya beans, peanuts, or cotton seed, the waste to be used as oil meal for cattle and the oil to be used for the manufacture of soap and for kindred purposes. It is also intended to build an addition to the plant by next fall, which will be used for refining this oil for use in the manufacture and preparation of margarine and edible fats.

The plant is in immediate need of soya beans, peanuts, and cotton seed. The Egyptian cotton seed is stated to be preferable to the American for the reason that the Egyptian seeds are cleaned before they are imported, so that there is little or no cotton clinging to the seeds, while the American seeds are not so cleaned and require special machinery for the purpose of cleaning the cotton from the seeds before the oil is extracted and before the waste can be utilized as oil meal for food for cattle.

The plant, when completed, will represent a cost value of over \$1,000,000, and will be situated on the new harbor at Esbjerg. It will consist of three main structures, a warehouse, the main plant for extracting the oil and preparing the oil meal, and the subsidiary plant for refining the oil and preparing it for edible purposes. The company purchases its soya and copra beans from Asiatic Russia and its cotton seed from Egypt.

The method of manufacturing the oil is as follows: The beans or seeds are first crushed and carried by conveyors from the crushing machines to tanks, where they are mixed with benzine, which drives the oil out of the seeds or beans. The waste is then carried off from the tanks and dried and sacked for olive meal for cattle food. The oil and benzine is carried away from the tanks into other tanks where the benzine and aqueous substances are evaporated and the benzine is drawn off and returned through pipes for use again in the process of extraction. With the present equipment the plant will use 90 tons of beans or seeds every day. By this process 17 per cent of the oil of the soya bean which has a percentage of 18 per cent oil is extracted so that there is a loss of only 1 per cent.

The plant is so constructed that additional machinery can readily be installed for pressing and extracting purposes so that the method of extract-

ing oil by pressing can be used. Under the pressing method, however, there is a greater loss, for example, but 12 per cent of the oil of the soya bean can be utilized by the pressing method so that there is a loss of 6 per cent. But by the additional improvements, which would cost about \$100,000, the plant can use 230 tons of seeds or beans by the extraction method with benzine and 70 tons by the pressing method, making a total of 300 tons per day for the capacity of the plant. The machinery for pressing seeds or beans will not be installed unless it is necessary for auxiliary purposes only; but the machinery for increasing the capacity of the plant for extraction of oil by the benzine process will be installed as soon as the management is convinced that such installation will prove profitable.

The plant, when in operation as planned for immediate use, will employ about 40 men, mostly unskilled labor. The operation of the plant as so constituted will require one-half ton of benzine and 20 tons of coal daily.

COHUNE NUT INDUSTRY IN HONDURAS

The cohune nut industry is attracting interest in many countries. Consul Willard of Honduras reports very interestingly which has recently been accomplished there and states that practically nothing has been done towards developing the cohune nut industry previous to the World War. With the demand for combatting the use of poison gas in the war it was found that the shell of the cohune nut when carbonized, acted as a preventive against the injurious effects of the gas. It therefore became the principle element used in the manufacture of the gas mask. There was, of course, need for millions of these, and the United States Government organized and set in motion the machinery for handling the industry on a large scale, but with the termination of the war the demand ceased. The utilization of the cohune nut for war purposes, however, serves to bring to light an industry which may be permanent, namely, the extraction of oil from the kernel of the nut.

The cohune (or corozo) nut is a product of the manaca palm, is indigenous to tropical countries, and is found mostly on low, damp lands, along creeks and rivers. It thrives best in the deep forest, and the greatest supply is found in the virgin forest lands, of which there are extensive areas in Honduras.

Annual Production of Trees—Machines Used to Crack Shells.

The nuts grow in large oblong clusters weighing probably 75 pounds each. A single tree will have from one to four clusters on it at a time and with an average production of four clusters (300 pounds) a year to the tree. The nut varies in size from 1 1-2 to 3 inches in length and from 1 to 2 inches in diam-

eter. The shell is hard and dense, with an average thickness of one-fourth to one-half inch. For cracking the nuts preparatory to extracting the oil two varieties of machines are used. One is designated a "knuckle" machine, in which the nuts drop from a hopper between heavy knuckles thus cracking the shell. The other is called an "impact" machine. It operates by a centrifugal motion which propels the nut against the side of a large metal bowl with sufficient force to break the shell. The oil can then be extracted from this copra or crushed product.

The oil is high grade, said to be superior to coconut oil, and finds a ready sale for cooking purposes, the preparation of foods, or any use to which a good cooking oil may be put.

Honduras Chief Source of Supply.

Honduras is said to be at present the most important source of cohune nuts in Central America. The greatest supply is found on the lowlands toward the eastern portion of the north coast. The Aguan River valley contains a single field of these nut-bearing trees extending 60 to 70 miles up the river from its mouth and with an average width of 10 to 122 miles. Persons familiar with the industry who have been over this field estimate that an equipped force of 500 men could get out 10,000 tons of nuts a month from this field alone. There are good prospects for this valley being reached by railroad in the near future, thus furnishing transportation facilities for the development of the industry.

OVERWORKING THE GOVERNMENT.

A heroic remedy for the boll weevil is suggested by a Florida man. He proposes that Congress shall enact "suitable legislation providing for the extermination of the cotton boll weevil by preventing the growth of all cotton in that part of the United States lying east of the Rocky mountains for the period of one year."

This would certainly starve the boll weevil. It would also come near to starving some of the cotton growers, unless Congress made a generous provision for rationing them.

The proposition is interesting chiefly as an indication of the growing tendency to look to the Government for relief from troublesome conditions instead of turning to individual effort. The Government did so many unusual things during the war that nearly all classes of people now think of Government action as the solution of every problem. The old theory that the best government is the one that governs least has few friends at present.

The functions of the Government have been greatly enlarged in all civilized countries during the past generation, and there is every reason to believe they will be further enlarged. But there will always be something left for the individual citizen to do.

Insect pests have always troubled farmers. The cotton growers can reduce the damage from the boll weevil by changing their method of cultivation. If the insect should be exterminated, there would be no assurance that it would not return from the same place from which it came before.—The American Fertilizer.

ENGLISH EDITORIAL ON COTTONSEED OIL.

An English journal publishes the following editorial on the shortage of cotton oil and the tendency of the Indian authorities to limit the sending of foodstuffs out of the colony. "On several occasions we have referred to the absence of imports of Indian cottonseed and it must be admitted that by whatever means this state of things has been brought about it is becoming disastrous for the trades dependent upon cotton oil. The present scarcity of cotton oil in this country is becoming a positive calamity, and yet we know quite well that there must be plenty of seed if it could be utilized. Very naturally, the American cotton oil trade is taking advantage of the fact that the world is now largely dependent upon the production of the United States, and if our readers will take the trouble to look into the figures they will see that the former "waste product" of the cottonfields threatens to become more valuable than cotton itself in spite of the enormous rise in that article. Meantime, the stocks of cottonseed in India must be piling up, and there must be an increasing inducement to the holders in that country to attempt to crush the seeds themselves. We are aware that there exists a powerful movement in India with the object of making that great Dependency industrially self-supporting, and this is operating in connection with many of the commodities with which this Journal is concerned. In view of the rich stores of raw material and the abundance and cheap labour available, this development may go far, and may have a decidedly prejudicial effect on British industry and employment. It is highly important, therefore, that we should get back as soon as possible to sanity in the matter of seed oil prices.

COCONUT PRODUCTION IN BRITISH GUIANA.

Cocoanuts are now planted on 23,900 acres of land, whilst the acreage in 1916 was 20,100. The export of nuts increased from 1,631,000 to 1,911,000, but, in addition, 1,507 cwts. of copra and 26,674 gallons of oil were exported. By far the greatest number of the nuts grown is used locally for the manufacture of oil. There is still a very wide area of land suitable for the planting of coconuts, on parts of which extension of such planting is being actively carried on. Under proper cultivation and drainage the yearly crop will be very largely increased in the near future.

PEANUT A MONEY CROP.

Scarcely a day passes that inquiries are not received relative to the peanut industry in the South. It is strange, indeed, that the southern farmers have so long overlooked the real value of the peanut as a part of their cropping system and that the present high market prices of peanuts were necessary to awaken the farmers to their opportunity. Nothing has been found that will excel the true Spanish variety for general cultivation on southern farms. General difficulty exists, however, in procuring pure seed. The only way that the farmer of the South can be sure of a high-producing strain of pure Spanish is by growing a seed patch from specially selected seed.

Thirty-six pounds of clean Spanish peanuts in the shell will plant an acre, and a one-acre seed patch, if properly handled, will produce enough seed to plant about 30 acres the next year. With this fact before them, it should be a comparatively easy matter for the peanut growers to get on the right basis, so far as the seed supply is concerned. The stock seed for planting the seed acre should first be carefully selected in the pod, then shelled by hand, and the shelled peas again carefully gone over, and all that are off color or inferior either in size or shape should be discarded.

A few years of proper selection will give the farmer a strain of seed peanuts for his conditions that can not be had from any other source. By this method, together with proper cultural practices and crop rotation, the yield per acre can be greatly increased. About the only method whereby the farmer can hope to make a profit is by cutting down production costs through increased yield per acre. The future of the peanut industry in the south is almost without limitations, and the farmers who get into the business on the right basis are going to obtain the highest profits.

POLAND—A FUTURE MARKET FOR VEGETABLE OILS.

A large business is done in Poland in vegetable oils and oil seed. Before the war, says a correspondent in Warsaw, nearly all the imports, valued at 4,000,000 rubles, came from Russia. Now it is hoped that some of these articles will come from England and that the oil mills of Hull will compete with those of Russia, Germany and the Netherlands. At present there are no oils in Poland; they were taken away by the Germans. The oils most needed are linseed, castor, coconut, palm, and palm-kernel oils, wool oils, etc. Poland has only two large oil mills which are buyers of castor seed and copra, and a speedy cargo of these articles would be sold immediately at a high price. A good opening for capital would be the establishment of an oil mill on a large scale provided with improved machinery.

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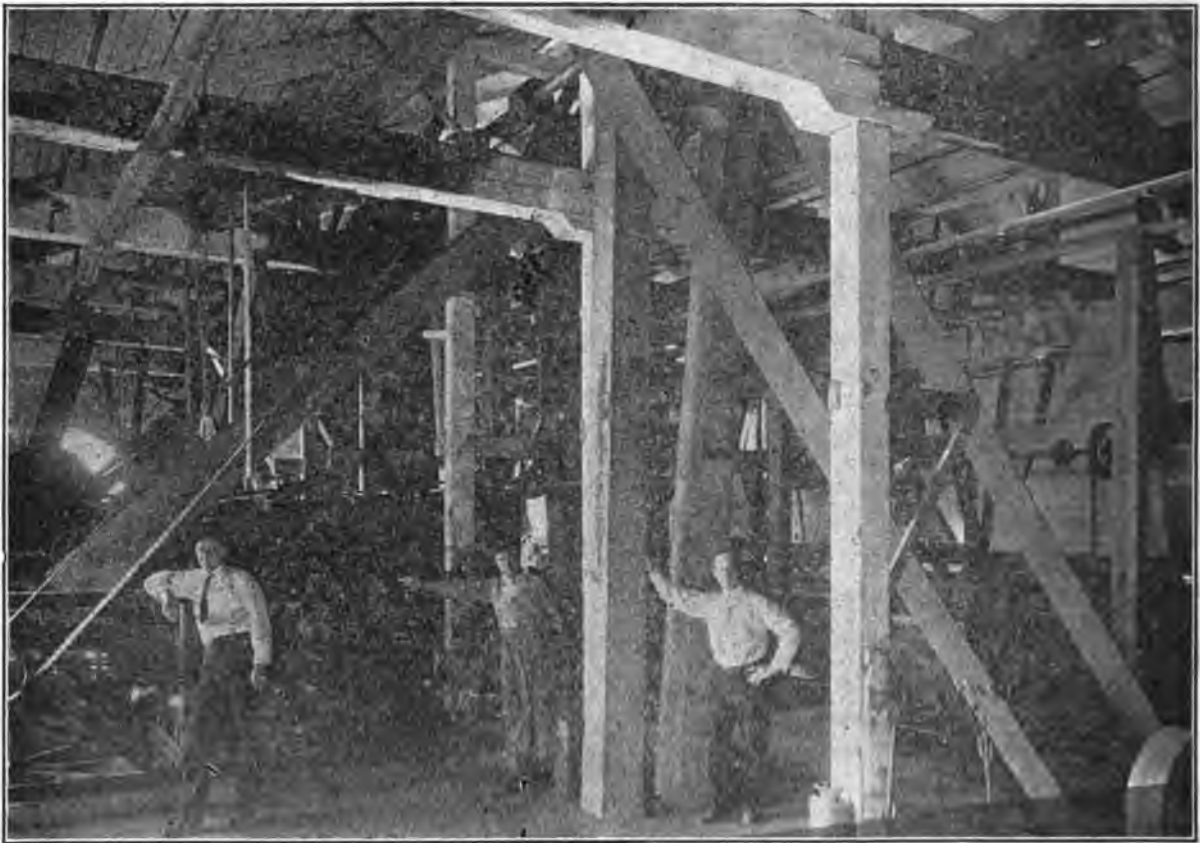
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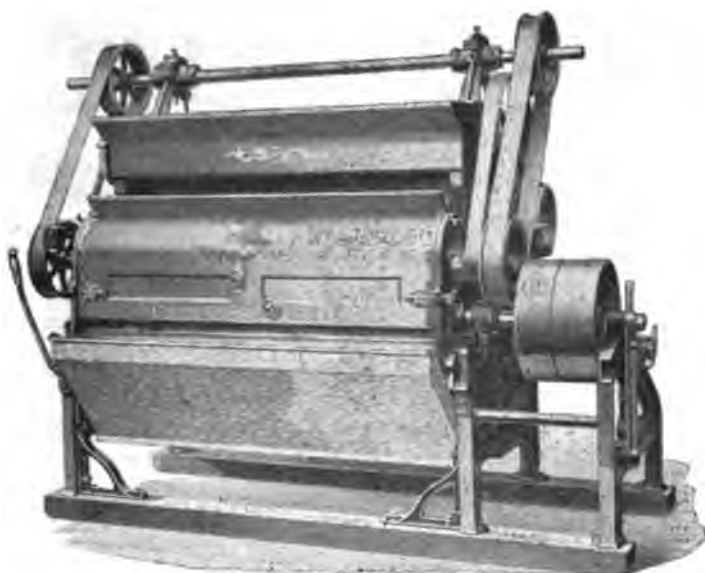
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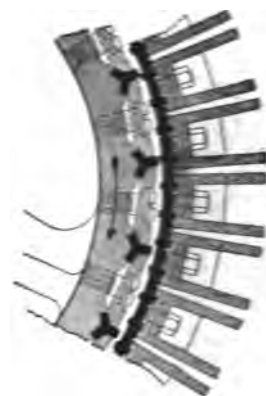


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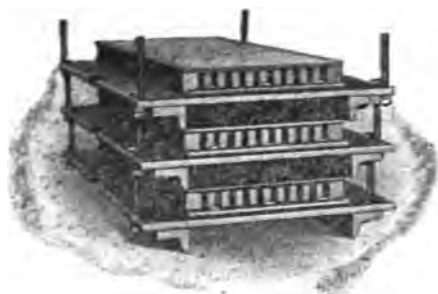
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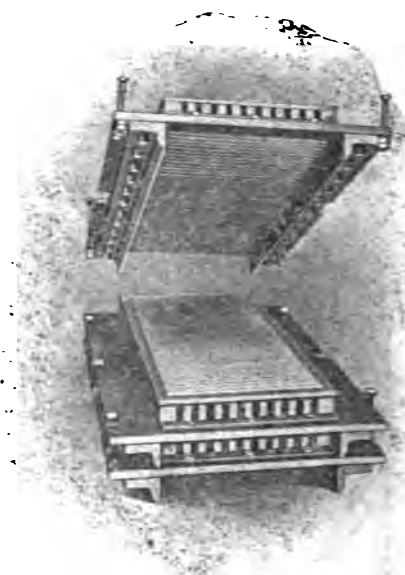
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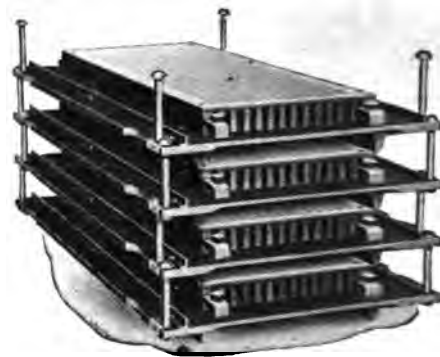
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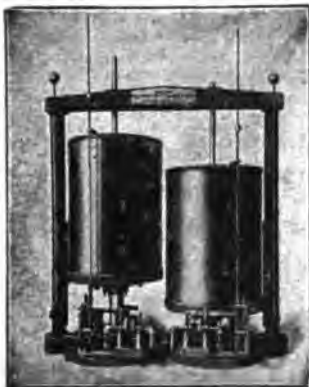
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That's the Secret of the "EDGE-CUT" idea. It's not all of the secret, by any means, but the balance is merely in the expert and conscientious workmanship and the high-grade, high-carbon tool-steel which we use—both very expensive, but worth every cent they cost. ANOTHER THING is an element of their excellence and is as old as the art of file-making itself—that is, that real, sure-enough, honest TEETH are CUT on the edges. All file teeth always have been and always should be CUT with a chisel, and we GUARANTEE THAT OURS ARE NOT MILLED OR ROLLED ON.

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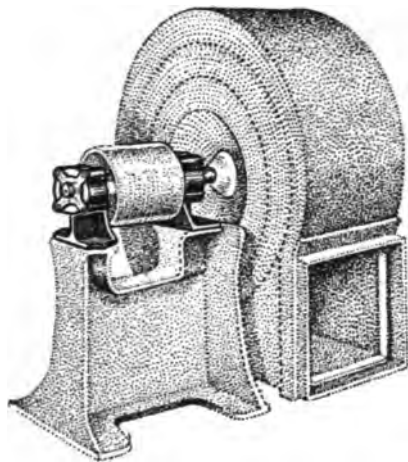
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Replacement easily and quickly made. Results saving in power, lubrication, time, attention. No interruptions or shut-downs. Great saving in fan belts. Full instructions for applying shipped with bearings.

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Diameter of Fan Diameter Fan Shaft
Center of Shaft to Bearing Base on Pedestal
Size and Number of Bolts in Bearing Base
Bolt Spacing on Bearing Base
Remarks:

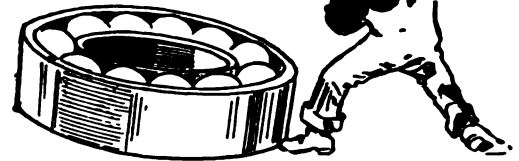
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You might as well use an axe
on **BALL BEARINGS**
as put ordinary
grease in them -



- both mean sure destruction!

It is commonly known that lubricating grease is not altogether suitable for use in ball bearings, because under service conditions it usually develops fatty acids which attack and corrode bearing surfaces, thus proving detrimental.

Furthermore, whether of high or low quality, grease cannot begin to lubricate until aided by heat. As bearings are obliged to develop that heat thru an increase in friction, grease defeats in part at least, the very purpose for which ball bearings are installed.

That these faults of grease are avoided by using NON-FLUID OIL — is evidenced by the fact that manufacturers of ball bearings including S.K.F. BALL BEARING CO., FAFNIR BEARING CO., TRANSMISSION BALL BEARING CO., and many others use and recommend this product. The same is done by the CARVER COTTON GIN CO., ATLANTA UTILITY WORKS, CHANDLER CONSTRUCTION CO., BAILEY-BURRUSS MFG. CO., and other builders of oil mill machinery.

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THINK IT OVER

The underwriter will not insure against loss of profits on damp cottonseed no matter what premium you agree to pay. The risk is too precarious. Then as a hard-headed business man, how can you justify taking chances?



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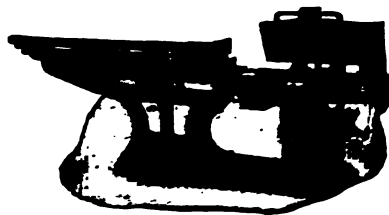
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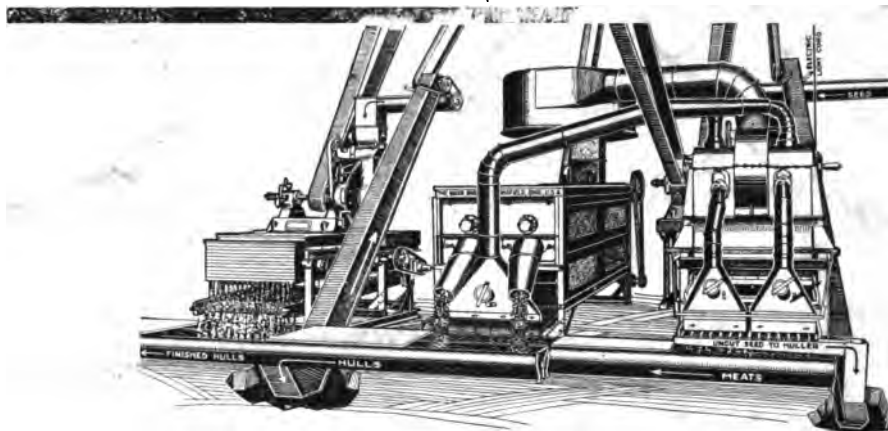


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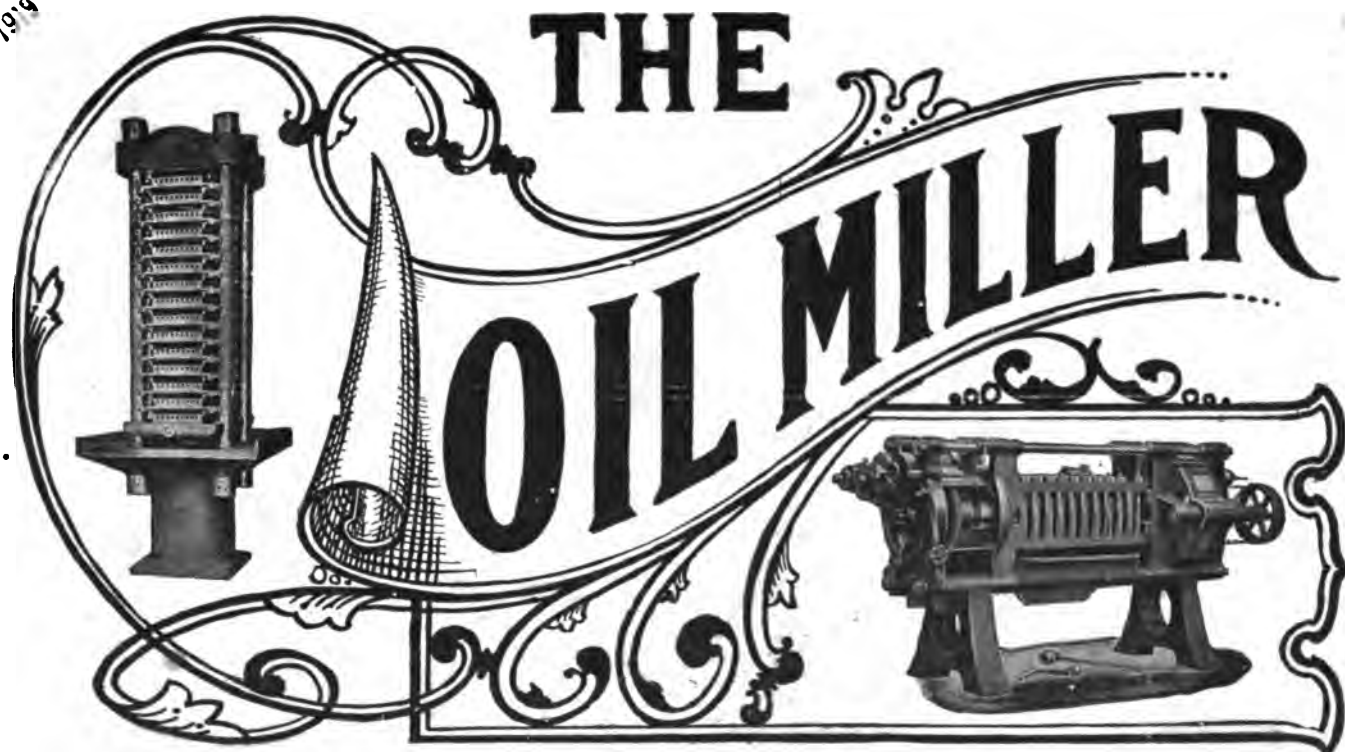
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ATLANTA, GA.:
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Vol. IX. No. 12.
Monthly.

Atlanta, Ga., August 1919.

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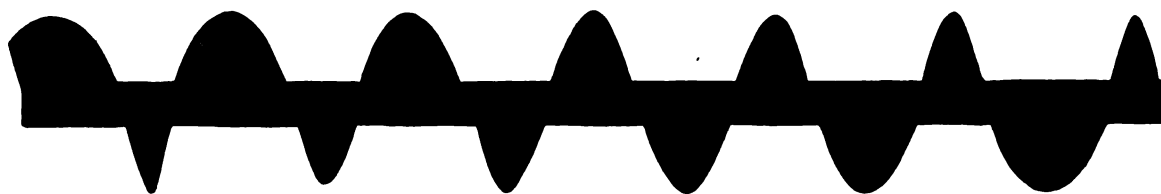
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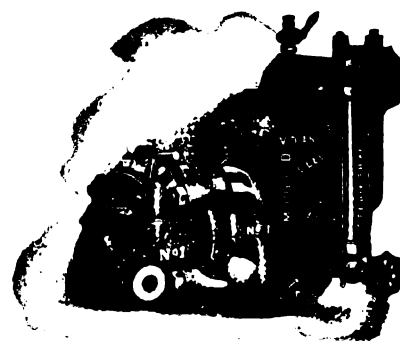
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*Will Solve Many
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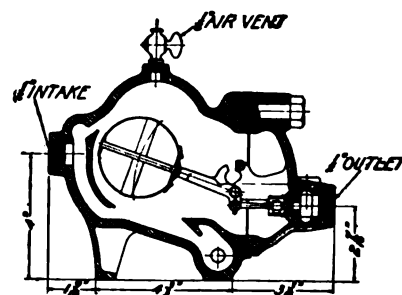
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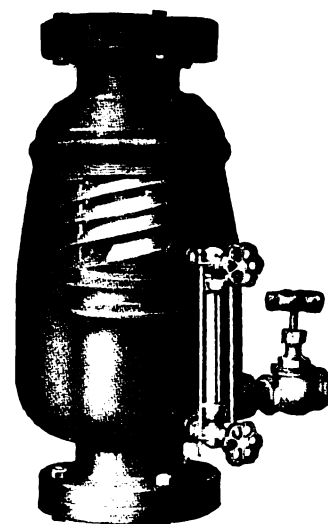


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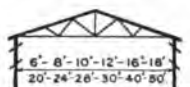
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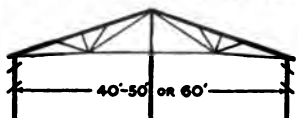


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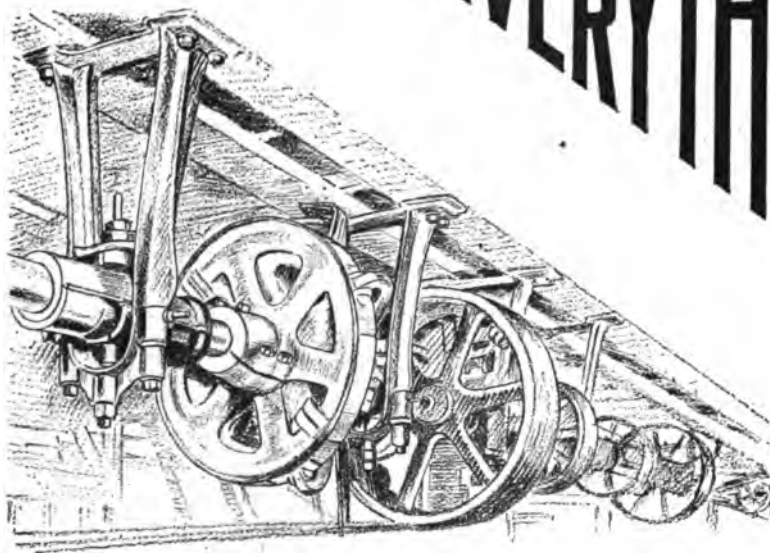
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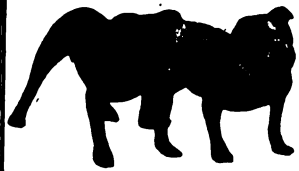
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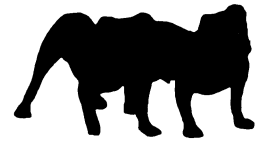
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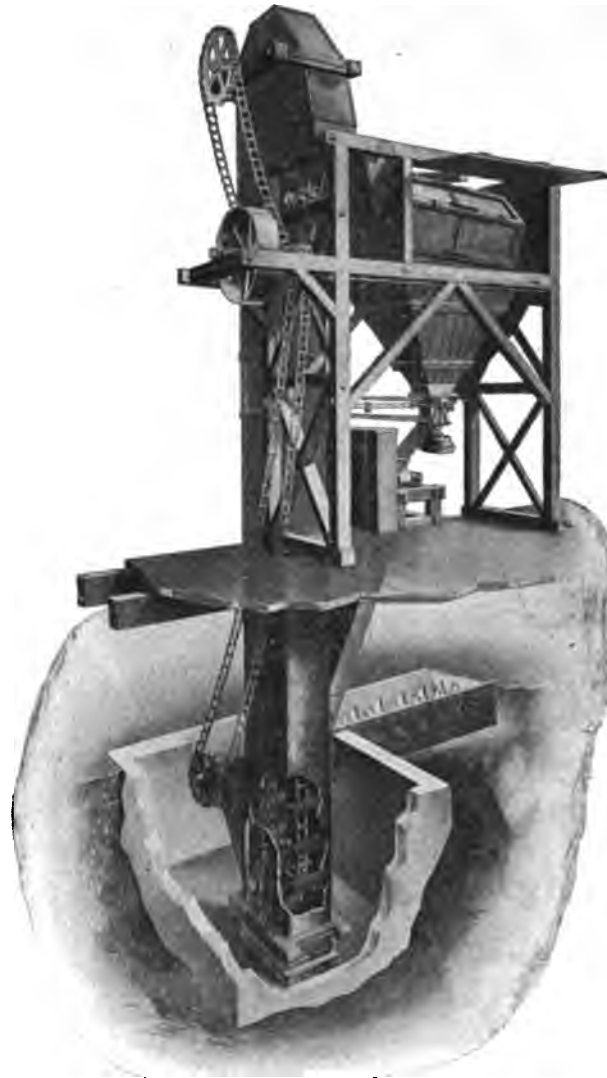
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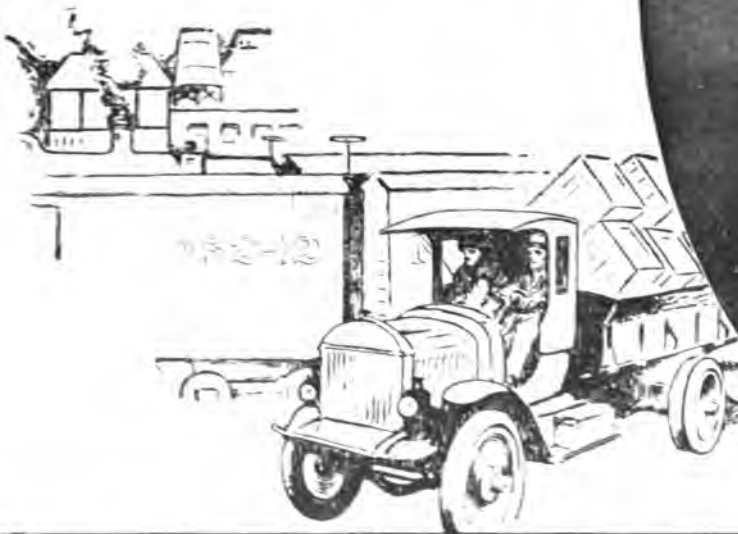
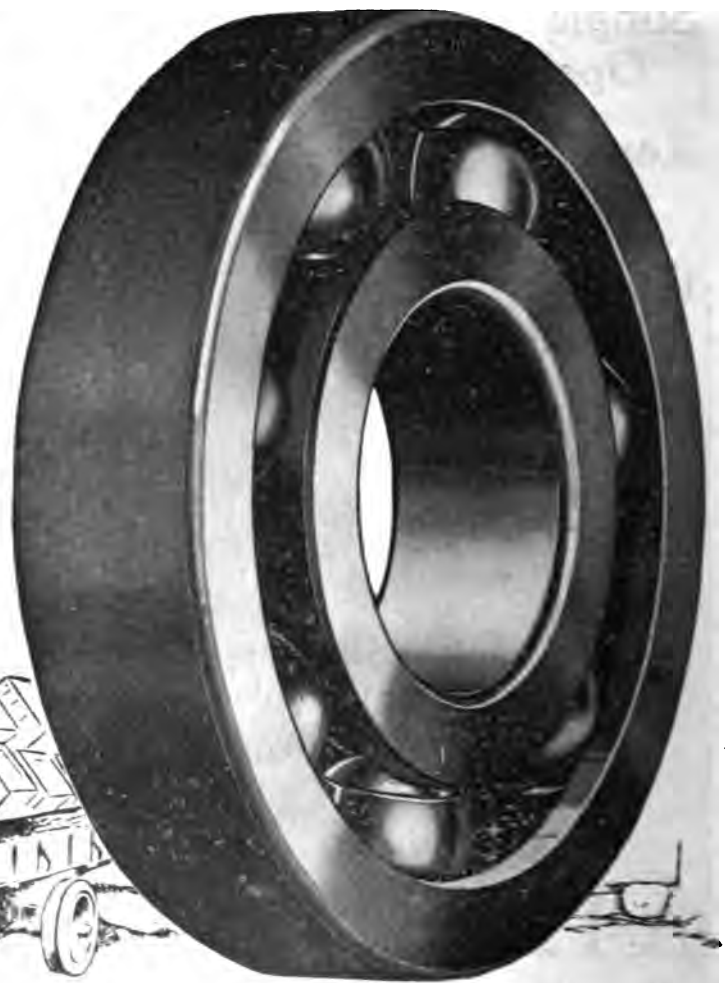
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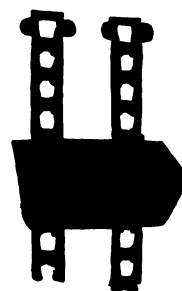
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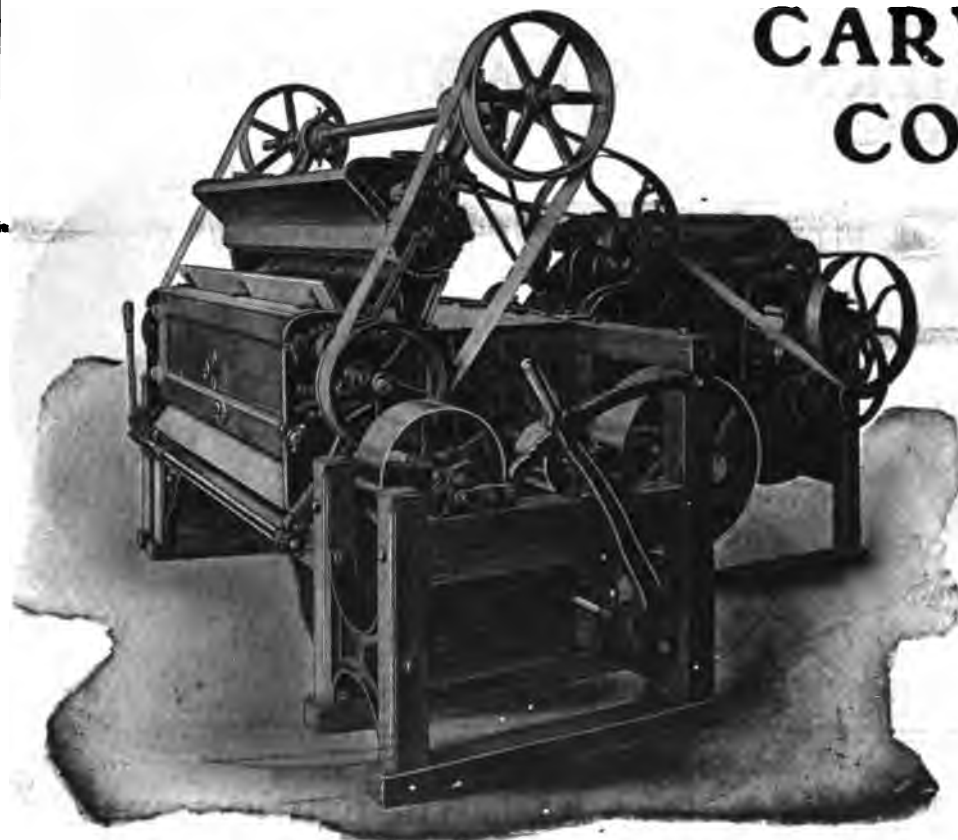
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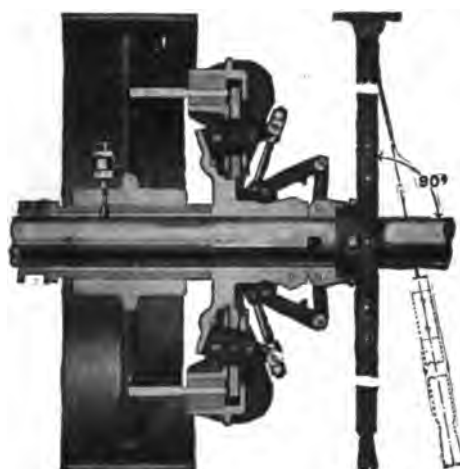
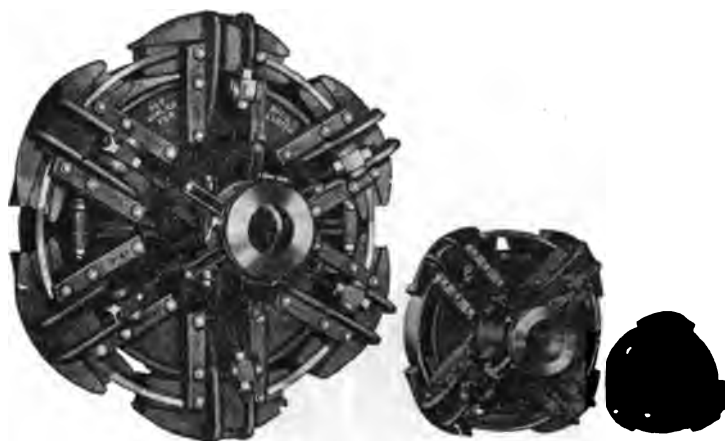
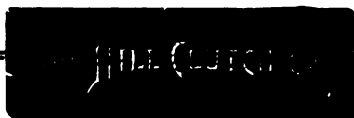
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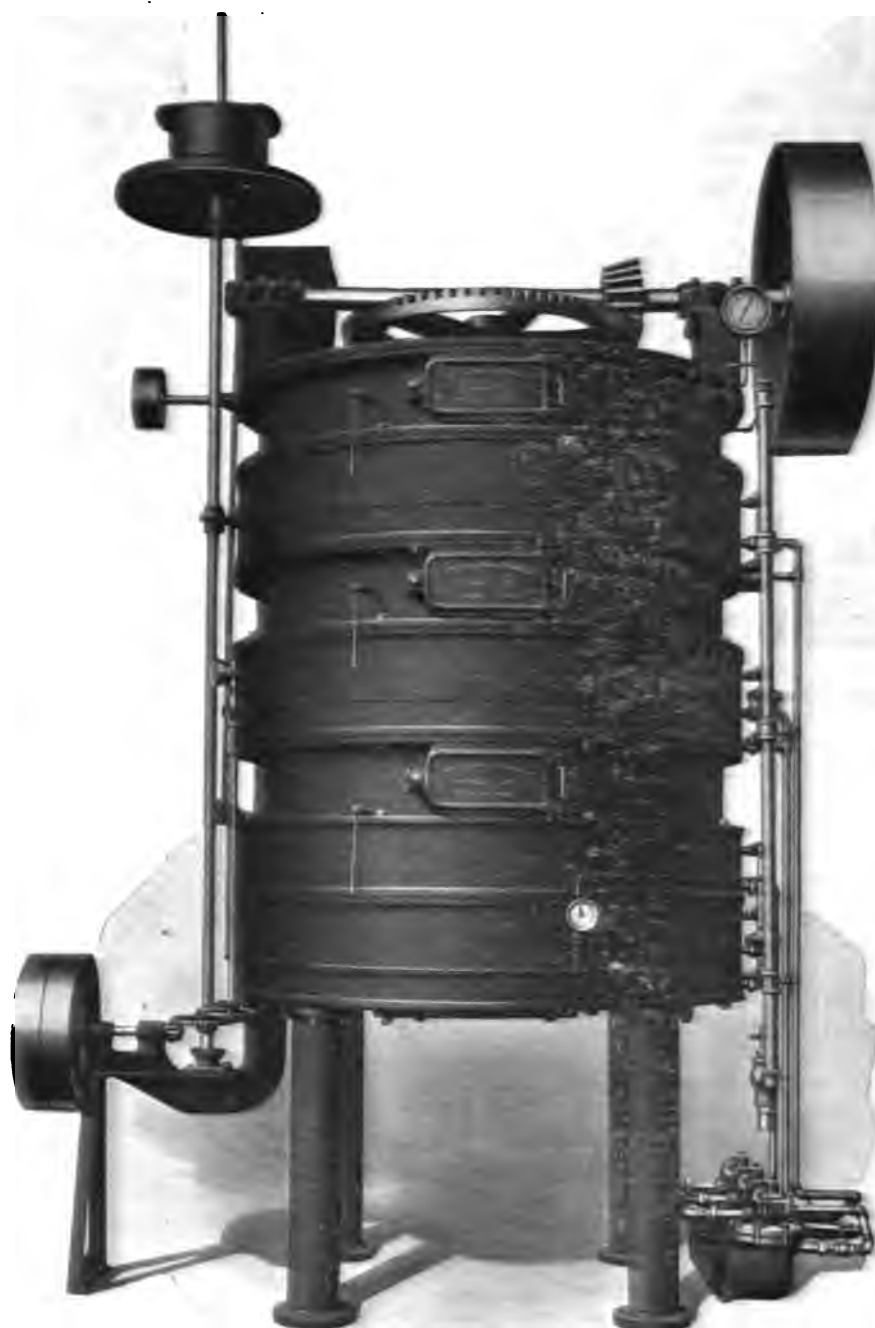
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ATLANTA **DALLAS**

THE OIL MILLER

Vol. 9.

Atlanta, Ga., August 15, 1919.

No. 12

THE OIL MILLER

OIL MILLER PUBLISHING CO.

MARY R. BURRUSS, Manager.

KATHERINE G. BIRMINGHAM, Editor.
Atlanta, Ga.

Subscription Price: \$1.00 per Year.
Three Years for \$2.00

Address all communications to The Oil Miller,
Empire Bldg., Atlanta, Ga.

Advertising Rates Furnished Upon Application.

Entered as second-class matter March 4th, 1913, at post
office at Atlanta, Ga., under act of March 3rd, 1879.

Official Organ Alabama Cotton Seed Crushers Assn.
Official Organ Arkansas Cotton Seed Crushers Association.
Official Organ Inter-State Oil Mill Superintendents Assn.
Official Organ North Carolina Cotton Seed Crushers Assn.
Official Organ Cotton Seed Crushers Assn. of Georgia.
Official Organ Mississippi Cottonseed Crushers Assn.
Official Organ Louisiana Cotton Seed Crushers Assn.
Official Organ South Carolina Cotton Seed Crushers Assn.

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TO THE SUPERINTENDENTS.

In a special section of this issue you will find copy of the proceedings of meeting of The Interstate Oil Mill Superintendents' Association, held in Atlanta, June 4th, 5th and 6th. This is of interest not only to the superintendents who were present but equally so to those who were not able to be in attendance.

The Oil Miller is the official organ of The Interstate Oil Mill Superintendents' Association and we want every superintendent to feel at liberty at all times to take advantage of its pages to put before the superintendents any problem which may be worrying him and which he feels that some other superintendent may have overcome and who shall be willing for him to profit by his experience.

This interchange of methods is a wholesome way for the superintendents not only to enlarge their own ideas, but to reach out the friendly hand of aid to other superintendents. It helps not only the individual, but the industry, as a whole, and the

ultimate success of the oil mill industry is the individual success of each and every superintendent. In bettering the production your mill, whether it be by increased production of oil, or in the quality of the oil; in putting your mill on a high standing as to cleanliness, satisfied labor and reduced fire risk; in improving in any way whatsoever the individual work you as a superintendent are putting into your mill, insomuch as you improving and aiding the oil mill industry.

Perhaps some of your methods might be followed by other superintendents if they knew about them. So do not hesitate to tell of them by letter in the pages of The Oil Miller. Everyone's ideas are welcomed and this pooling of ideas will work to the closer binding together of the association for the purpose for which it was organized.

THE PASSING OF SEA ISLANDS.

The distressing decline of the sea island cotton crop is attracting attention throughout the whole country. When the short staple varieties were bringing low prices and even then seemed a drug on the market, the planter who was so located that he could grow sea island was looked upon with envy. The past few seasons have proved beyond a doubt that the ravages of the boll weevil are such that the growing of the popular sea island cotton is doomed unless the pest can be finally conquered.

According to a recent report of the Department of Agriculture, the 1916 sea island crop totalled 117,000 bales; in 1917 the crop was 92,000 bales, in 1918, the crop now being marketed, dropped to 52,000 bales. And now experts after going carefully over the growing crop estimate it at only 15,000 bales. Mr. Wm. T. Williams, cotton expert of Savannah, Ga., states that this development was not unforeseen. Two or three years ago he drew attention to the coming crisis in the sea island crop production, and a year ago government experts said that the crop was doomed. Sea island cotton is peculiarly vulnerable to the depredations of the boll weevil. With the certainty of weevil infestation the farmer simply abandons the culture of sea island and turns his attention to more certain crops.

The greatly reduced production has not been attended by any compensating advance in prices. On the contrary, the effect of the decrease has been just the opposite. Concluding that they could no longer rely upon obtaining a reasonable supply of sea islands, mills have arranged to use substitutes

as a general rule, and in this they are no longer dependent upon the cotton imported from Egypt. The American Egyptian cotton grown in Arizona appears to be available, at least for most uses, and that crop is steadily increasing in importance. Produced on irrigated land, the Arizona crop is not dependent upon rainfall; but naturally it is an expensive crop, and requires a high schedule of prices in order to prove profitable.

Sea island cotton is a permanent variety, and the staple remains the same through the lapse of generations. Whether or not the substitute will be able to do the same, remains to be demonstrated in the future. The various strains of long staple cotton grown in Egypt have hitherto seemed to show a tendency to revert to type, a new strain being developed about the time when the previous one wore out. What the mills require is of course a permanent dependable supply of long staple cotton.

To cotton interests generally the idea of the passing of the sea island crop is a very saddening one. For generation after generation sea island cotton has been the premier cotton of the world. Before the days of tire fabrics, and of long staple cotton from Egypt, sea island cotton was exclusively used for the making of sewing thread and for numerous other purposes for which the ordinary upland staple was not so well adapted, the very latest use for sea island exclusively has been the making of aeroplane wings.

Other varieties of long staple have proved more or less impermanent the staple failing after a series of years, probably through reversion to type. But sea islands have remained the same for a hundred years. It is unfortunate that the crop should be shut off, now that there is so much more demand for the long staple. To a very great extent the loss can be made up by the American Egyptian cotton of Arizona; but after all there is no other cotton like the inimitable sea islands, steady and reliable. It is to be hoped that the disaster will not be quite as bad as now indicated by the results of the researches of the government.

STARR W. SHELLEY.

The many friends of Mr. Starr W. Shelley were gratified at the honor shown him when he was made Secretary and Treasurer of the Interstate Oil Mill Superintendents' Association. Mr. Shelley has taken an active part in the affairs of this organization for a number of years. He is a native of South Carolina having been reared on a farm in Marion county.

His first mechanical work was with the Marion Iron Works where he was employed for three and one-half years. He then went with the Marion

Cotton Oil Mill where he took charge of the linter room. After the first year the manager of this mill, Mr. Edward A. Eve, decided to go to Charleston and build a mill to work Sea Island cotton seed. Realizing the "oil mill possibilities" which were in his young linter man, Mr. Eve took Mr. Shelley with him to help build the mill; later he was made superintendent of the Sea Island Cotton Oil Company, which position he has held for the past ten years.



Those who have met Mr. Shelley at the conventions are impressed by his boundless enthusiasm and his untiring efforts to learn new methods of oil milling and his willingness to share with the other fellows the things which he has learned by experience.

It is the willingness to learn from those who know more than we do and the willingness to help those who want help which makes a superintendent's convention a profitable meeting to the men in attendance.

The association is to be congratulated on the officers which they now have. With President J. H. Morgan and Secretary Starr W. Shelley in charge, they have every promise for a most successful year.

The Sylvester Oil & Fertilizer Company, Sylvester, Ga., will rebuild its plant recently destroyed by fire.

Proceedings of the Tenth Annual Convention INTERSTATE OIL MILL SUPERINTENDENTS ASSOCIATION Atlanta, Ga., June 4, 5, and 6, 1919

The Tenth Annual Convention of the Inter-State Oil Mill Superintendents' Association was held in Taft Hall, Auditorium-Armory, Atlanta, Ga., June 4th, 5th and 6th, 1919, and at ten o'clock Wednesday morning, June 4th, was called to order by Mr. W. H. Camp, President of the Oil Mill Superintendents Exhibitors' Association.

Mr. Camp: Ladies and Gentlemen of the convention, I have the pleasure of introducing to you one of Georgia's most distinguished citizens and one of Atlanta's most beloved pastors and ministers, who will open the session of the Inter-State Oil Mill Superintendents' Association with prayer, Dr. Charles W. Daniel.

Dr. Daniel offers Invocation.

Mr. Camp: Ladies and Gentlemen, in behalf of the Atlanta Chamber of Commerce, which welcomes you, I take pleasure in introducing Mr. C. E. Robertson, their secretary, who will address you.

Mr. C. E. Robertson, Atlanta, Ga:

Ladies and Gentlemen: I want first to express to you the regret of Mr. S. C. Dobbs, President of the Atlanta Chamber of Commerce, that absence from the city deprives him of the pleasure of being here this morning in person, to express his personal greeting and that of the Chamber of Commerce to you, and his welcome to you of this convention.

I am only an adopted son of Georgia, so that I can speak about Georgia for just a moment with perhaps less of bias than one who was born and raised here. In an address a day or two ago, to another convention, the Mayor of our city made this statement: That Atlanta was an exceedingly attractive place, and yet when you came to look for the attractions they were not here. I expect he was born here and raised here and he has missed some of these real attractions, because we have some great attractions in Atlanta and in Georgia. When the sun shines in Atlanta, as it does once in a while, it shines brighter than any other place on earth; likewise when it rains, it rains wetter than any other place in the world.

But we have that variety, sunshine and rain, so we appreciate first one and then the other. If we had all sunshine we would soon get so used to it we would cease to notice it. It would not be remarkable to us or to any one else. So we have these seasons of rain especially designed to show us the value of sunshine.

Yesterday I listened to a very remarkable paper written by a man in the cotton business on the subject of the cotton industry. I never have read anywhere so remarkable a romance as his paper proved to be. I discovered, to my surprise, that everything in the world can be made of cotton; that it is not only the fairest flower that grows, the sweetest blossom that blooms, but it is the most useful plant, or the most useful piece of vegetation generally that grows in this old mother earth of ours, and after passing up and down these exhibits in the other room I am more than ever convinced of the truth of the old statement that cotton is absolutely King, and it is one of the kings that is going to stay, one of the few kings that will not yield its scepter but whose power continues to grow as we discover new uses for it.

In the days immediately preceding this world war of ours, America had become what many thought to be money mad. There was no real aristocracy except the aristocracy of wealth—money, stocks and bonds—and that was the only distinction that a man might reach, or perhaps the greatest distinction, to be known as a Money King. But we soon discovered, after we got into this war, that that was a very sorry distinction after all. That money by itself did not cut very much ice; that underneath the real structure we had to have men, and had to have men who were willing to do something, not only with their minds and with their money but with their bare hands. In other words, we had to have service, and so out of this war we have learned the lesson that the real aristocrat is the aristocrat of service, and the real aristocrats are the men and the women who serve.

And so it is that a body of men like you men who are real builders of things, men who are the real producers, men who take the simple flower—for such it is—the simple plant which is grown here in this Southland of ours and make it work in so many channels, to make it perform so many functions, to give to it and to provide for it so many, many uses, that you are the men, and men like you in some other lands, who are the real aristocrats of this great country of ours today, and Atlanta is very proud to have such a gathering meet here. It is proud indeed to bring such exhibits as you have in the other room for exhibition to our people, and I wish it were possible, Mr. Chairman, for every citizen of Atlanta to walk

through the aisles of the Auditorium in the next two or three days to see some of the things which you men have brought here, which I know would surprise other men as much as they surprised me.

The Chamber of Commerce of Atlanta, which is composed of about fifteen hundred of the stalwart business men of this city, is particularly interested in such a convention as this. It is particularly interested in having such men as you come to Atlanta so we may get acquainted with you, so you may get acquainted with us; so there may be a closer feeling between you and this wonderful city of ours, and I bring to you the very heartiest welcome, not only of the Chamber of Commerce, but inasmuch as his Honor, the Mayor, is not here I am going to assume the right to welcome you in the name of Atlanta, because Atlanta is proud of you, of your vocation, of the things you are doing: it is proud of you most of all because you are men who serve.

Mr. Camp: It is now my privilege to turn over the gavel to Mr. T. T. Wolfenden, President of the Inter-State Oil Mill Superintendents' Association.

PRESIDENT WOLFENDEN: Ladies and Gentlemen:

We thank Mr. Robertson very much for giving us this address of welcome.

The next thing on our Program is the Response to the Address of Welcome, by Mr. W. E. Copenhaver, of Springfield, Ohio.

MR. W. E. COPENHAVER: In responding to an Address of Welcome I think one may feel something like the two men who were having a boxing match in Memphis the other day. One was a Memphis man and other was from Atlanta. At last the Memphis man got the other on the run and he ran him around the ring and around the ring until at last the Atlanta man just got out and ran up the chimney.

Of course that brought down the house and I said I would tell that in Atlanta. "But," said someone, "I don't believe Atlanta would take very well to a Memphis man running an Atlanta man up the chimney." "Oh," I said, "When I tell it in Atlanta it will be the Memphis man who runs up the chimney."

I think that is about the position one finds himself in when he responds to an Address of Welcome, although that is not true in this particular case. I can say truthfully that I believe Atlanta is in a class of its own, and that there is not another like it in the length and breadth of this entire land. I say that in all sincerity, and have said it on many occasions, both here and elsewhere.

We have been coming here for a good many years and we all know full well the ability of At-

lanta to provide us with the necessary facilities for holding a Convention. This splendid building is exceptional in its capacity to furnish the necessary space for the machinery exhibit, and it is evidenced by the fact that there are better exhibits when the Conventions are held in Atlanta than anywhere else in the country that I know of.

We thank the people of Atlanta for their assurances of welcome and their hospitality to us.

PRESIDENT: We thank Mr. Copenhaver very much for his talk to us.

Now we will get down to business and first will have the roll call of the members.

MR. STRICKLAND: I am sorry to see a lot of the old faces missing. Mr. President, I think it would be very well to wait until tomorrow morning to call the roll, there are so many of the members coming in this afternoon.

PRESIDENT: What about the appointment of Special Committees?

MR. STRICKLAND: You can take that up after recess and get your committees formed and announce them the first thing in the morning.

PRESIDENT: We will now have an address by Mr. F. H. Naedle, of Atlanta, on the subject of Fire Prevention in Oil Mills.

MR. STRICKLAND: Mr. Naedle does not seem to be here.

PRESIDENT: The next thing is a discussion of the subject by members, which will not be taken up as Mr. Naedle is not here.

MR. STRICKLAND: I find that Mr. Naedle was called out of town a day or two ago but he arranged to have his paper read by one of his associates. We have not been able to get in touch with him this morning but I have arranged for him to read his paper the first thing in the morning.

PRESIDENT: The next thing on the program is the application for membership.

MR. STRICKLAND: I will say for the information of the gentlemen present that we have had a good many applications for membership, and I would be glad for them to see me if they wish any information. I have all the facilities for explaining the features of the Association that they might want information on, and will be glad to take care of you.

PRESIDENT: If any members want to pay their dues they can come up and pay them while the others make out their application papers for membership.

Is there any further business?

MR. STRICKLAND: I move we adjourn until tomorrow morning at 10:00.

VOICE: I second the motion.

Motion carried.

PRESIDENT: We stand adjourned until tomorrow morning at ten o'clock.

Convention called to order Thursday, June 5th, 1919, at 10:00 A. M., by President.

PRESIDENT: Mr. E. T. Allen, Division Manager of the Union Seed & Fertilizer Company, is going to give us an address on the subject of Relation of Managers to Superintendents. There ought to be a great deal of harmony between the Superintendents and Managers because I believe their interests are all one, and there ought not to be any conflict whatever in anyway between them. So we will be very glad to hear from Mr. Allen.

MR. E. T. ALLEN: Ladies and Gentlemen:

When one of your local Committeemen asked me to talk to you, I am sure that he did not realize that my natural dislike of the limelight would have led to my promptly declining the honor, but for the bond that exists between you and me. I only wish that I could deliver to you in words the message that is in my heart.

Gentlemen, my first definite recollection of anything, excepting my parents, is an Oil Mill. I am the son of an Oil Mill Superintendent.

When I began to form impresions from things around me, back in 1886, my father was Superintendent of the Montgomery Oil Mill, Montgomery, Ala. Many a day as a small child have I spent around this old mill, one of the first in the country. After thirty-three years this property has come under my supervision and when I visit the old plant, it seems almost like hallowed ground. My father was later Superintendent of the Mill operated by the Southern Cotton Oil Company, at Savannah, Ga., which plant I still remember in all of its detail, though I have not seen it for twenty-nine years. In 1890, my father became Superintendent of the Mill built at that time by the Mississippi Cotton Oil Co., at Jackson, Miss., this being a branch of The American Cotton Oil Co. At Jackson I spent my Summer Vacations working in the mill, and there earned the first money I ever earned. Upon finishing school in 1899 I went to work for this Company, and have been with them ever since.

You will pardon me, I am sure, for this reference to my own experience, but in no other way could I tell you just how well I know your viewpoint and the difficulties of your position.

Having been associated with Oil Mills all of my life and having worked in a mill and on every job in an Oil Mill office—having for several years been an Oil Mill Manager, I am going to try to tell you something of my conception of the proper relations of the Superintendent and the Manager.

First, let me say that the financial success of an Oil Mill is becoming more and more dependent upon its proper mechanical operation. Margins of profit will in the future depend upon good mechanical results and low working costs. Woe unto the man who is so ignorant as to fail to recognize that the Oil Mill has become a manufacturing institution and not the side line of a speculator. Therefore, gentlemen, the importance of your work must be plain to you.

The Mill Manager who will succeed is what I would term a Manufacturing Manager—not a horse trader. The Manager, must, however, be a good trader. He must be the head of the business and must have your loyal cooperation. He must be a good buyer, a good manufacturer, and a good salesman. He deals with the producer direct, with you as the head of his manufacturing department, and with the consumer direct, or with others buying his product. At this point, let me call your attention to the fact that so far as I know the Manager occupies a most unusual position. Can you think of any other man who has to buy his raw material under competitive conditions, turn it into products and sell under competitive conditions? The merchant buys and sells, but does not manufacture. The Banker or Professional man sells his service and knowledge. The manufacturer of machinery buys on established markets for raw materials, to a large extent, their competition being in the selling end. Mr. Superintendent, do not forget that the Manager's life is full of trouble.

On the other hand, the position of Superintendent is not a bed of roses. The Superintendent must be a machinist, a mill-wright, a born leader of men, a chemist, a hewer of wood, a diplomat, a trader, a doctor and a man of more patience than Job; above all, he must be equal to every situation that arises in his mill—and SOME situations arise.

This lays the ground work for the big idea—Cooperation and mutual understanding. Neither the Manager nor the Superintendent has a corner on the troubles arising in our business. Likewise, our business has no corner on all the trouble in the world.

Gentlemen, I have not come to you as a moralist, but there is one cold-blooded business rule that never fails to pay—Be Honest. One of the first sentences taught us in childhood is "Honesty is the best policy." It has been said that: "Honesty is the only policy," and I believe as sincerely as I believe anything that Honesty is a natural instinct. By Honesty I do not mean those things that keep you out of jail. Do not surround your problems with

mystery. Discuss your problems with your Manager. Do not fear the admission that you have struck a snag—we all strike them. Your Manager may possibly not understand some of the details of your trouble but he can always be helpful in some way, even if it is only a word of encouragement—what human does not respond to encouragement?

If you will again pardon me, I am going to relate a little incident in my own experience as a Mill Manager. The Superintendent came into my office one day soon after we had decided to increase the Lint yield from about 30 pounds to 300 pounds, the picture of discouragement. He said to me: "Well, I have come in to resign. I guess you had better put a good man on that job. The d— Lint simply won't come off of those seed." I said: "Old man, let's talk this over a bit." And when I had convinced him that Rome was not built in a day he went back to the job in a good humor and made a splendid record.

In a few days after a morning of nerve-racking experiences, when through some strange cause every seed agent in the country lost his mind at the same time, and everything else seemed to be wrong, I wandered into the Mill for relief. I found the Superintendent and said: "John, life is too short to waste it all in one year on this job, and I know I can hardly last the year out, so I have just about decided to quit and starve to death, as it will be a more pleasant death."

The Superintendent looked at me with pity and replied: "The H— you say, come on down here and look at this separation we were talking about yesterday; after I opened up that first huller and closed the second and changed that perforated metal, it's doing jim dandy work." I went back to the office smiling and in a few days was transferred to Atlanta—John got his salary raised—

Gentlemen, that may get to you my idea of co-operation.

If your Manager does not take an active interest in your work—educate him, for he needs it. That's where you must be a diplomat. If your Manager does take an active interest in your problems, encourage him.

One of the smartest mechanical engineers I have ever known once told me that he got some of his best ideas from men who had had no mechanical training. The untrained mind is the unbiased mind, and sometimes will stumble into the right suggestion. Then, by stating a case to a sympathetic listener, you will yourself frequently see the solution, after the problem has gone stale hanging around in your own head.

The Manager who does not welcome frequent conferences with the Superintendent is not a Man-

ager in the true sense of the word—he is an accident. The Superintendent who hesitates to go to the Manager for discussion when he is in trouble is not honest, because false pride stops him. The Manager who fails to try to help is a fool because his interest and the Superintendent's interest is one and the same—the success of the business.

I have talked to you entirely of problems and troubles. We, of course, have other things in our business. Every live Superintendent has in his mind constantly some plan to improve his work and reduce his expense. Every live Manager should encourage this and give his full co-operation. It is my opinion that a Superintendent should hold his course to the charted sea of experience and accepted standards as far as possible. Still there is a big field for the application of good ideas.

The Superintendent can be of great assistance to the Manager in seeing that every package of product that leaves his plant is in perfect condition. That is a point which we have not generally given the attention that it deserves. The next time you are in a store handling general merchandise, look at the packages containing all kinds of merchandise, and resolve that your meal and hulls will be packed and sewed as neatly as the best package you see. A Manager has difficulty with product that goes out in sloppy, untidy shape, regardless of the quality of the product. Give him your co-operation.

The Manager wants the Mill to be a decent place in which to work. He knows that plenty of light and ventilation is needed to obtain best results. This can be obtained at little cost frequently. If you haven't these conditions, suggest them and you will be surprised to see how quickly you will get approval.

Gentlemen, you have passed through some trying experiences during the past two years. Our Government has called upon you for Lint in quantities not dreamed of before. This has thrown your plants out of balance, and you have been called upon to hurriedly throw in additional machinery, thus taxing your power plant and your transmission equipment. Our Government has called upon you to give up your trained help, adding greatly to an already serious situation. You have never faltered, but have gone on with green and inefficient labor and every conceivable kind of difficulty, but you have delivered the goods. In no single case under my observation has a Superintendent quit under fire during these trying times. I think that I know that there has been no more patriotic class of men in our land than the Superintendents who have gone through the fire and have produced the raw material in sufficient quantities to blow the Hun from the gateway of Liberty, and

thus save the world for all time to come for the article which bears in blazing letters—"MADE IN AMERICA," the article called Liberty.

Gentlemen, I thank you.

PRESIDENT: Now, this address that Mr. Allen has so kindly given us coincides very much with my idea of the matter. I believe it is in keeping with the idea of each and every Superintendent in the hall, as something that should be done, that should be looked after carefully, this relation of the Manager to the Superintendent, and each and every Superintendent should not have any grievance at all when the Manager comes out through the plant. He is only coming for your interest, as well as his interest and that of his company, I believe there ought to be cooperation between the Superintendent and the Manager, a most harmonious and pleasant feeling at all times in the business. Now, this address that Mr. Allen has so kindly given us is open for discussion by the members. If there is anyone wishing to say anything we would like to hear from them.

MR. STRICKLAND: I am confident I voice the sentiment of the Association when we thank Mr. Allen for the very clear address and especially the kind utterances in regard to our patriotism. We of course, are all more or less sensitive about that. We like to feel that we are as patriotic as anybody. We have pretty trying times, it is true, but under many serious difficulties we have done the best we could—sometimes pretty rotten, but the best we could do under the circumstances.

I feel that if we could have more addresses by men of Mr. Allen's caliber we would get better and more sympathetic feeling and understanding and thereby have a better organization. The indications are that the next season is going to be equally as hysterical as the past has been, if not more so, but I feel pretty sure that with the cooperation of the Managers and the Superintendents they will measure up and by close cooperation will be more able to meet whatever may come.

I hope that in the future we will be able to have more men like Mr. Allen with us and believe it will be for the good of the entire oil mill industry.

PRESIDENT: I don't believe there is a man here who would not cooperate with his Manager. This is a question we would like to see thoroughly discussed and would be glad to hear from anybody else who has something to say.

If no one else wishes to speak on this subject we will hear from Mr. Geo. C. Speir, of Atlanta, on the subject of Linters.

MR. GEO. C. SPIERS, Atlanta, Ga.:

Mr. President, Ladies and Gentlemen:

In asking a Linter man to address a Convention of Oil Mill Superintendents, places the Linter man

in a position that reminds me of a negro song I heard a short while since. A big black negro was quietly digging a ditch, when, without any provocation whatever he raised his head and shouted in a typical Coon-song shout:

"If you don't believe I'm sinking,
Look what a hole I'm in;
If you've got no faith in me,
See what a fool I've been."

To say that I am sinking mildly expresses my position, as every Superintendent knows what an unenviable reputation a Linter man has, and every Linter man knows what he thinks of most Superintendents, but is afraid to express himself, as the Superintendents are usually the largest men.

When I was asked to say a few words to you on the subject of Linters, the question came into my mind: "What is a Linter?" I consulted several dictionaries and failed to find such a word. This relieved me to a certain extent, and I said to myself, "Here is where a Linter man can lie, at least without being contradicted by Mr. Webster."

Of course, you all know what a Linter is, therefore I will not undertake to improve on the work of Webster and give you a definition of the word, but instead will endeavor to tell you of some of the usages and peculiarities of Linters.

Linters are probably the most **CUSSED** and **DISCUSSED** commodity manufactured by Oil Mills. From the best information I can get the first Linters ever produced were given away with the understanding that the recipient remove same from the premises as fast as they accumulated, and today they are the second highest priced commodity, on a per pound basis, made by Oil Mills.

Linters have been accused of containing more foreign matter and other impurities than any other Oil Mill product, yet upon investigation I assure you you will find that they have two virtues for every defect, as they are capable of being converted into more different usages than any similar commodity. As an illustration of this, I will take the use of linters during the recent war.

As you all doubtless know, Linters were the basic article used in making explosives, or what is commonly known as Gun Cotton, to hurl the missiles of steel to kill or wound mankind. When an injured soldier was removed from the battle field, his wounds were dressed with hospital cotton, made of Linters; the cot on which he rested in the hospital was made of Linters; and should this wounded soldier be sufficiently fortunate to have a rug beside his cot, it also was doubtless made of Linters. Should this same wounded soldier succumb to his wounds, or "Go West" as the soldier expresses it, the casket in which he was laid to rest is padded

with Linters. From this you will see that Linters played a most important part in the war.

However, now that the war is over, let us look into the peace time usages of Linters. We find them playing a most important part in both the necessities as well as the luxuries of life. It is estimated that at least fifty per cent of the mattresses used in the United States are made of Linters.

The Lavallier that you presented to your wife for a Christmas or birthday present was carefully packed by your jeweler in linters which had been converted into hospital cotton. The tops of a great many of our pleasure automobiles are imitation leather made of linters. While lounging in the lobby of your hotel, if you will examine the tapestry cords adorning the windows you will find that they are artificial silk made of linters.

At the annual meeting of the Interstate Cotton Seed Crushers' Association, held in New Orleans, last month, the programs used at this convention were printed on paper made of linters. Some of the more recent discoveries for using linters is the manufacture of the backs of tooth brushes, hair brushes, mirrors and other toilet articles; this product is known as French Ivory. Should a linter inspector visit your mill and your first impression was that he wore silk hose, fear not; for on a close examination you will find that they are imitation silk made of linters. Other more common usages of linters are for making batting, wadding, coarse yarns and various stuffing purposes.

As I have told you before, the first linters produced were given away; in other words, they were considered valueless. What a different story today! Take the year 1913, the production of linters was approximately 600,00 bales, and sold for about \$10,000,000. In 1917 the production was approximately one million bales and was valued at at least thirty-five million dollars. I mention these figures, gentlemen, in an endeavor to impress upon you the fact that linters today are not the little insignificant article that you considered them several years since.

If an article is worth making, it is worth saving. If it is worth saving is it not worth making right? You may criticise a linter inspector for rejecting your linters, and at times your criticism may be just, but I venture to say that more often it is unjust. I appreciate the fact that the condition of your machinery affects the grade of your linters, but I have never seen but one machine that would pack layers of motes and sweepings in with linters and that machine has two legs, can walk and talk, and is usually of a dark color. Can he not be adjusted as well as any other part of your machinery?

If not, you had best discard him and try a replacement.

Some of you have doubtless asked the question: "Why should a linter buyer object to a few pounds of motes and sweepings packed in a bale of linters?" In answer to this I will ask you to exchange places with the Superintendent of the factory that is to consume your linters. He is instructed to make a certain grade of felt, or yarn, out of a shipment of linters, and he, too, is forced to work the same two-legged machines, of a dark color, as you. The machine that will throw motes into a bale will hardly throw them out, therefore the Superintendent is soon turning out an inferior finished product and is called into the office by the Boss to explain why. Naturally his reply is: "I can't make the negroes throw the motes out of the bales and you can't expect me to turn out a good finished product unless you furnish me with the proper grade of raw material."

Did you ever run into a bad lot of seed, have your yield of oil run low, your meal off color, and your linters and hulls smelling like a vinegar barrel, and have the Boss call you in and ask what the trouble was? No doubt, the most of you have a stereotyped reply, and let me tell you that the Superintendent of a factory consuming linters is just as good at alibis as an Oil Mill Superintendent.

From this I hope you will realize the importance of keeping your linters clean, for otherwise it only means trouble for all concerned, and probably an actual loss, for your company, and a loss caused by poor oil milling or carelessness on your part certainly does not encourage an increase in your salary.

Just here there is one other point that I will mention, and that is the sampling of your linters. How many times have you been asked to draw samples of linters your mill had on hand, and instead of doing the sampling yourself, you would send some negro who probably did not know a bale of linters from a bale of motes. Only recently I wrote a mill asking for samples of their linters, and much to my surprise I received samples of straight cotton and not linters. And in other instances we have received samples of motes when we asked for linters. Such occurrences not only reflect on you but on your superior officers and your mill is immediately classed as careless or indifferent.

Also allow me to stress upon you the importance of making neat, tidy packages, as often a good, well covered bale will aid you very materially in disposing of your linters.

Gentlemen, I have said about all I can think of regarding linters, and if you will pardon me I will

say a few words on a more pleasant subject, and that is Money. You know that for the past few years we have learned to speak in billions, when heretofore we did well to speak in dollars and cents without getting our tongues twisted. When the seven billion dollar Liberty Loan was proposed by the Government, a country bank cashier undertook to figure out just how much seven billions amounted to, and he took a ten dollar bill as a basis, and he said: "It will take fifty of these to make five hundred dollars," and so, after counting out fifty ten dollar bills he cubed same off, and then took the dimensions of an average sized box car and soon learned that it would take two hundred and forty-six average box cars to haul seven billion dollars in ten dollar bills. Now, Gentlemen, my wish for you is that each mill you represent will declare a dividend of two hundred and forty-six box cars of ten-dollar bills, and that each of you be presented with a properly signed Order Notify bill of lading covering one car of same.

I thank you.

PRESIDENT: Thank you very much, Mr. Spier, for your address to us.

Our next address is on Peanut Oil by Mr. S. W. Shelley, of Charleston, S. C., and this is a subject that we would all like very much to hear discussed.

MR. S. SHELLEY, Charleston, S. C.: Mr. President and Gentlemen:

I did not know that my name was on the program until I got here yesterday morning. They say that a fellow can talk best about the things he knows the most about, but I don't know so much about that, even.

In making peanut oil, a high grade oil, it seems to me it is like the song I heard a negro singing. I hired a negro about three months ago that I had never seen before. Labor was a little scarce and I took him just as soon as he came up in the yard asking about a job, and it was all right. I worked him on our little railroad track in the yard, and this fellow had a pick, getting the old cross ties out and putting in the new ones. I put him with another man to work and did not notice him very closely, but in passing through the yard I heard a song different from anything I ever heard before. I never heard anything but these words: "Oh, Captain, there is going to be hell torectly." And I think that is the way a Superintendent feels when he is making peanut oil for human consumption. If anything goes wrong, why, there is going to be Hell torectly.

We feel like we are the pioneers of the peanut oil market. I know that as far as we have been able to find out there is no other mill in the United States making the virgin peanut oil in the quantity that we turn out. We do make the virgin peanut oil.

As it leaves the mill filtered, it is filtered again, and goes on the market in that state, with the peanut flavor, absolutely nothing done to it but that. And, of course, we believe it is in a class of its own as a salad dressing.

I will grant you that it is a whole lot of trouble to make that kind of oil. You have to work everything so clean, you have to keep up with it so close. But one of the great features about that is, you have to keep your mill so much cleaner, and there is a great difference in the amount of work in connection with making a virgin peanut oil and an oil that you have to refine to make pure.

I just don't feel like I am able to tell you all about it. It is a thing I have been working on for about ten months now, of making this same class of oil, and it is just the biggest job that you ever undertook. I don't care who he is or where he comes from, whenever you say you are making an oil for human consumption that by refining you make pure—well, as I say, it is just so different until you just can't get it in your mind what it means.

And then, taking care of the oil after it is made.

Of course, we had to pick our peanuts. We work nothing but A-No. 1, hand picked right to the machine, and you have got to get the oil away from the presses before it gets cold to hold up the flavor. The flavor you have got to have not too strong, and all of that is in the job. It is a constant worry, because you know that there is nothing else to be done to the oil after it leaves you, and if the customer doesn't like it, why then it is all up to you; it comes right back to you.

Whenever you get a standard, and they place the standard pretty high, and I am glad they do, because when ever we put an article on the market for human consumption I think the pure food law in that way has made the standard so high until we have to think more about the cleanliness of it. As I say, whenever the time comes, from the time the peanuts come to the table through the sheller, and on to the table, it just means more than you can think of.

Just think what it means to have a few rotten peanuts in there! You have got to be so particular about the rotten nuts, and you don't want to have any hull in there. And then you have to get the oil away from the machine as it comes out, and never let the butts stand in the oil. It is one routine after another.

We filter our oil before we ship it away, and the people that put it on the market, they filter it again, and I hope the time will come when people will think more about what can be done with this.

There are so many different kinds of peanut oil

but I can only tell you about the kind I am trying to make

As I said, I did not prepare anything to say at all, because Mr Burruss told me yesterday morning after I got here that I was on the program. I said: "Hell, what do you expect me to say?" and he said: "Just start something." I think I have started something and I want you all to finish it.

PRESIDENT: We are all very glad to hear from Mr. Shelley, and thank him very much for what he has said.

This matter is open for discussion and if anyone has anything to say on the subject we should like to hear from them.

MR. MORGAN: I would like to ask Mr. Shelley if he has much trouble to get the shelled peanuts through the expeller; don't they crowd back?

MR. SHELLEY: We have no trouble at all. The only thing is, we don't try to get them very low, say, seven and a half to eight and a half. We never try to get it any lower than that because we are just striving after one thing, high grade oil. You can fix it so you can hardly get them through, by trying to get a low grade oil. You see it is absolutely pure meats, nothing in there to cause it to go on through the machine, only the way you adjust the cone, and you have got to give it so much feed. Of course, whenever you cut down the feed to get your oil lower it inclines to back up. It is all in the way you get your meats to the machine. That has more to do with it than anything else.

MR. MORGAN: Do you cook your meats?

MR. SHELLEY: We just heat them, but you wouldn't understand unless you had been in the mill and seen our drying system. We run it through what we call a steam jacketed blower. In other words, we only get the nuts slightly warm, but I have had lots of trouble, and it is for that one reason, not being able to get the peanuts to the machine in the right state.

Most of our peanuts come from Georgia and much depends on the way the man that gathers the peanuts takes care of them before they come to you. One car of peanuts will seem to be fine, just about right, before we shell them. And then the next car may give you more trouble than you ever dreamed of.

MR. MORGAN: You don't grind the meats at all, do you?

MR. SHELLEY: No, we use no huller at all. We did work them whole as they left the table, but our tonnage was running low, and we could not get away with the amount that would pay us. So I just rigged up two 15-inch pulleys, flat face, and just run them together, cross belt on one, straight on the other, and just work the peanuts up into quarters, break them up into quarters.

VOICE: Do you use a hydraulic expeller.

MR. SHELLEY: We use the Anderson Oil Expeller. You can ruin the flavor of the oil so quickly until you have to avoid getting the oil too low.

PRESIDENT: It is in order that somebody make a motion to adjourn.

MR. MORGAN: I move we adjourn.

MR. SHELLEY: This gentleman here wants to know if there is anybody that has converted a hydraulic press to a peanut mill?

PRESIDENT: When I was traveling, we converted the Arlington mill into a peanut mill and they run about as much on peanuts as they did on cotton seed. We changed that mill and put on a device something on the order of those they use on ammunition machines and a number of others.

My son operates about half the season on cotton seed and about half the season on peanuts. He uses the expeller, and I believe the expeller is really more desirable for peanuts than any other. We had a suction device.

A VOICE: Did you find it sucked up a good deal of those meats, or not?

PRESIDENT: No, sir. You were not compelled to take out the quantity of hulls that you were when you were working cotton seed.

Now comes the applications for membership. We are all anxious to get more membership in the organization, and if anyone wishes to pay their dues they are at liberty to do so.

MR. STRICKLAND: Before we adjourn, Mr. Camp asked me to announce that at 7:30 tonight there would be a banquet at the Ansley Hotel on the roof garden, and Mr. Camp asked that if any one of you wanted to carry your wife, or a lady friend with you, that you register them at the desk in the hotel and get a guest badge.

At 12:00 o'clock Mr. Price, of The Atlanta Constitution, wants to take a photograph of the whole outfit and it will be announced from the Machinery Hall.

We want the members who have not paid to come up and so. Only twenty-seven have paid so far. Last year we had a deficit of some sixty-odd dollars and the Machinery Men had to come to our rescue so as to enable us to come out even. We only want to get up enough to pay expenses, but there are some things that have to be taken care of.

PRESIDENT: Upon motion, properly seconded, we now stand adjourned until ten o'clock tomorrow morning.

Adjourned.

Session called to order at 10:50 A. M., Friday, June 6th, 1919, with the President in the Chair.

PRESIDENT: The first thing on the program this morning is an address by Mr. J. W. Coon, of

Sanford, N. C., on the subject of The Oil Mill Industry of Tomorrow.

Mr. Coon has been over to the Memphis meeting, where he read that article and it was discussed in that meeting. The article will appear in The Oil Miller and everybody will have an opportunity to see it. Mr. Coon has asked that we excuse him this morning, but the article will appear in The Oil Miller and we can read it and discuss it among ourselves at home. I believe that it is just as good a method of getting the benefits of it as if he had endeavored to give it to us this morning, and so we will pass that up. (Editor's Note: Mr. Coon's address appeared in July, 1919, Oil Miller.)

The next thing will be a discussion by the members of the Oil Mill Industry of Tomorrow, and if there is anyone that chooses to speak on that line we would like to hear from them.

As there seems to be no one who cares to speak on that line, the next thing is the report of the Committees.

SECRETARY: There are no committees reports this morning.

But coming under that head, I will say that there are some pretty active representatives here from Greenville who want to carry the Convention up there next year. I explained to them, when they wanted to appear before us, that this would be decided later in the year by a joint committee from the Superintendents and from the Exhibitors, and they would have ample notice to prepare their data and appear before that committee.

Of course, we also have some other invitations. We have one from New Orleans, and one from Memphis, from Birmingham, and Savannah, and Columbia, but we are not prepared to make any definite decision at this time, but it would not be amiss to hear from as many Superintendents as care to speak on that subject.

Here followed a general discussion as to the respective merits of the various towns extending an invitation to the Convention.

Also followed discussion on the yearly question of how to get the Superintendents into the Hall, how to keep them there, and whether their Managers should pay their expenses to the Convention. PRESIDENT: If there are no Committees to report we will then go on to unfinished business. Is there any unfinished business to take up?

If there is no Unfinished Business, we will then take up the discussion of New Business. Is there any discussion along the line of New Business?

MR. T. W. TURNER: I want to make a motion that we select Atlanta for the permanent meeting place for the Convention.

PRESIDENT: Any one anything to say along that line?

VOICE: I second the motion.

SECRETARY: Just a minute before you put that to a vote. I think you will find in the Constitution and By-Laws that the next meeting place and time for same are to be left to a joint committee of the Superintendents and the Exhibitors. Now, to put that in legal form, Mr. Turner's motion would have to be that the body of the Superintendents assembled recommend that our Committee vote for Atlanta, and fix it in that form. That is the only way you can get it by those By-Laws.

PRESIDENT: Shall we have a motion along the line suggested? Will you make a motion as to that and then take up the matter of the other places?

MR. TURNER: Will that be all right, to amend the motion in that way, to put it through the regular channels?

PRESIDENT: All who would prefer Atlanta stand up.

Twenty-one stand up.

PRESIDENT: Are there any of the Superintendents who prefer Greenville? Please stand up.

No one stood up.

PRESIDENT: It looks like the majority are in favor of Atlanta.

Now, the next thing is the election of officers for the ensuing year.

MR. ROGERS: Don't you have to appoint a Committee to meet with the Committee of the Exhibitors? But I suppose that will be done later.

PRESIDENT: Yes, that will be done later.

Nominations now are in order for the election of the officers. The first thing to decide is the President. I believe the By-Laws stipulate that the Vice President comes in as President by acclamation; is that regular, in order, that way?

SECRETARY: It is not absolutely the law, but it has been the precedent.

PRESIDENT: It appears the Vice President is now working for the Government and may not be with us again, so we would like to have some suggestions along that line, as to who to elect as President.

MR. MOORE: I have been asked to nominate Mr. J. H. Morgan, of Ozark, Ala., for President.

MR. EDMONDS: I second Mr. Moore's nomination.

MR. ROGERS: I nominate Mr. Shelley, of Charleston, S. C.

MR. TURNER: I nominate Mr. A. L. Richardson of Augusta, Ga., for President.

MR. MORGAN: I second that nomination.

MR. PRICE, of Suffolk, Va.: I move the nominations be closed.

Motion carried.

Ballots were cast and Mr. Morgan received twenty votes and Mr. Richardson seven.

PRESIDENT: Gentlemen, it appears that Mr. Morgan is elected in this case, by the count of these votes.

MR. MORGAN: I certainly appreciate the honor you have given me in this case and I hope to be able to carry out the program as the President should carry it out, and will do my best to do that. I hope that we will have stronger meetings than we have been having and get a little more enthusiasm on the thing, and get as much good out of it as we can. I thank you all very much.

PRESIDENT: The next thing in line is the election of the Vice President.

MR. SHELLEY: I nominate Mr. C. F. Crymes, of Athens, Georgia.

MR. TURNER: I second the motion.

SECRETARY: I move the nominations be closed.

VOICE: I second the motion.

Motion carried.

MR. MOORE: I move the rules be suspended and the Secretary cast the vote for the Convention for the Vice President.

MR. ROGERS: I second that motion.

Motion carried.

SECRETARY: It gives me a good deal of pleasure to cast the unanimous vote of this Convention for Mr. C. F. Crymes, of Athens, Ga., for our next Vice President.

PRESIDENT: The next officer to be elected is the Secretary and Treasurer.

MR. MOORE: I would place in nomination Mr. Starr W. Shelley, of Charleston, S. C.

MR. TURNER: I second that nomination.

MR. STRICKLAND: I move the nominations be closed.

Motion carried.

VOICE: I move the rules be suspended and the Secretary cast the ballot for the Secretary and Treasurer.

Motion carried.

SECRETARY STRICKLAND: Gentlemen, it gives me a great deal of pleasure in this particular instance—I am enjoying myself right now immensely—to cast the ballot for Mr. Starr W. Shelley, of Charleston, S. C., for your Secretary and Treasurer for the ensuing year.

MR. ROGERS: I would like to say a word right now, if it is in the right place. I don't know how the rest of you gentlemen feel towards our Secretary and Treasurer that has just gone out, but I want to express my appreciation to him for the work he has done with us and for us, and I feel very sorry when he tells me that he is not going to be in the game any further. I think we ought to give him a rising vote of thanks for his services. ..

MR. MORGAN: I second the motion.

PRESIDENT: It is moved and seconded that we give our retiring officer, who has served us so well as Secretary and Treasurer, Mr. Strickland, a rising vote of thanks.

All rise and applaud.

PRESIDENT: Mr. Strickland, we would like to hear from you. I know you have something good.

MR. STRICKLAND: I know you all have heard about the parrot that had all its feathers pulled out, and when asked what the matter was, replied: "Because I talk too damned much." That is the case with me. I have always talked too much.

But it has been a pleasure to be with this bunch of men, and I appreciate the hearty cooperation, you might say, of the favored few, although those that are not in here have missed more than they have any idea of. I have been greatly benefitted in a good many ways by coming here, and I regret, of course, that my plans are uncertain for the future and I don't know just where I will be in the coming years. But I will always try to make my arrangements, if possible, to be with you, because I am sure I will enjoy always being with you.

PRESIDENT: We certainly thank you for your many kindnesses bestowed upon this organization. If I could only speak the feelings of my heart I would have a great deal to say, but we certainly regret very much to lose you in this office. But we are fortunate enough to get a gentleman who will take great interest, I believe, from general appearance and from what I have learned and what I have noticed.

We thank you very much, and we hope you will do well in your new undertakings.

MR. STRICKLAND: Before we adjourn, I wish to say that out of over three hundred Superintendents registered only thirty-six have paid their dues. Now, my experience has been, that a man usually profits in proportion to what he puts into anything, and the amount of work you put into anything will have a big bearing on the pleasure and profit you get out of it, and as Mr. Shelley is going to come in I would be very glad if we could raise enough money to meet the current expenses, which will be about one hundred and twenty dollars, and give him a clean slate to start with.

I feel like that, in a sense, it is kind of due me and it is due Mr. Shelley to at least give him an even start, because that is the last time he will ever be even.

And you old Reliables up here, I want you all to bring in all the new members you can, and let's get up enough to settle this matter off and give Mr. Shelley a clean start, give him a clean slate. I will appreciate your helping Mr. Shelley and myself both along that line.

MR. MOORE: I would like to make a few remarks. I have been attending the meetings ever since the first one met in Macon. I think Brother Strickland has been with us every time, and has not missed a meeting. I have enjoyed the meetings, every one, and have always gotten paid for coming. But I am like Brother Strickland; I am out of the game at present. My health broke down, and I had to get away from things and get my health back.

But the way I see it, the Oil Mill business is changing, and this year has been one of the worst we have ever had, and it is getting time now that we have got to do some individual thinking. As the sign at the railroad crossing says: Stop, Look, Listen, Danger Ahead. We should do more individual thinking and try to build up stronger character, and be better men, live better lives, and try to make our business worth while, and get something to pay us for what we are doing.

It is a hard job, I have found, when we come to the Conventions and try to elect officers, and I hope now that we will get more Pep, and I advise the members to attend more promptly, and to express themselves along their lines of thought.

PRESIDENT: We appreciate very much what you have had to say, Mr. Moore.

MR. BLACKWELL: I want to ask about the Constitution and By-Laws. I want to know what is the status of the Superintendent without a mill in this organization. I have always been a member of it and very proud to be a member of it, and very much interested in what it has done and is going to do. But just at present I am not connected with an Oil Mill at all. I have been on the other side of the game, so to speak, connected with the Sales Department of one of the gin companies here in the city, and I don't know just what my status is. If it is possible for me to belong to this Association I would be mighty glad to do it. I would like for the Secretary to put me right on that.

MR. STRICKLAND: Mr. Blackwell, about all I can say is, if a man is not an active Superintendent, or I might say a Superintendent without a mill, if he has other employment, why, I don't see where he is a Superintendent. This is a Superintendents' Association.

Now, understand, gentlemen, Mr. Blackwell is a good friend of mine, and this is not a matter of discourtesy at all, but I believe it is just a question of whether a man is a Superintendent if he is a salesman, he is not a Superintendent.

If he is out of a job, temporarily, and looking for a position or for a mill, that is another matter entirely. But if he is a salesman, lined up with

a machinery company, he is then not a superintendent, is the way I figure it.

It says in the Constitution and By-Laws: "Any company or individual engaged in the manufacture or sale of oil mill supplies or the publication of periodicals in the interest of oil milling, or any cotton seed product brokers or chemists, or any who may wish to and are acceptable to the committee, may become a member of the Association by conforming to the provisions of the By-Laws."

VOICE: If a brother has paid his dues, I don't see why he is not a member of this Association, if he has paid up.

MR. STRICKLAND: It seems that the By-Laws has provided for it, and that it takes a different view from what I did.

MR. BLACKWELL: I still belong to the Association, then?

MR. STRICKLAND: According to the By-Laws.

PRESIDENT: It strikes me that those who have been members of the Association and have paid up their dues, and want to continue to pay their dues, though they may be out of our line temporarily, should be allowed to be in and remain if they pay their dues.

I am a great man to get hold of money when we need money and right now is the time, as you say, when we need it, and so I would like those gentlemen that wish it to be recommended or remain with us provided they give us the goods. If we don't have the money we cannot run this organization. We don't want to be calling on these good machinery men out here all the time to help us out.

MR. SHELLEY: If we don't, they will be calling for a secretary.

PRESIDENT: We certainly want to get our new Secretary and Treasurer in here feeling good and kind toward us, but if he is in a hole to start with how can we expect him to pull out if we don't start right in and help him?

VOICE: I would like to make a suggestion for the future: when a man registers, ask him to pay his dues. It is not that we grudge the \$3.00; it is just lack of interest, and most of them will pay up if they are reminded of it. That is why I think they will pay if you let them know you need it.

PRESIDENT: Permit me to ask you, and every one of you, how many new members have you registered since you came here

Different members spoke of how many new members they had brought, or tried to bring in.

MR. BLACKWELL: We have with us this morning, Mr. P. Z. Harlee, President of the National Association. I MOVE we extend him the floor.

PRESIDENT: We should like to hear from Mr. Harlee.

MR. HARLLEE: If I had a good partner and some music I could decorate the floor pretty well, but when it comes to speech making, I am not strong.

However, I have enjoyed your meeting, and have enjoyed going around in the Conventions so much that I had sort of forgotten about the hard times they have been having in oil milling. It has been a pretty stiff job this year, I think about the worst I have ever been in and managed to get through. The labor conditions have been very bad with us, as well as with a great many others.

But from the smiling and pleasant looks on all these gentlemen's faces, and those I saw at Memphis last week, it has been a good meeting. We had a good meeting in Memphis last week, a very good attendance, and we had a very interesting program. There was a good deal of interest taken in it, and I think everybody was benefitted by it. I am sorry that there were not more members of this Association in attendance there, though there were a few.

The National Association has very little time to devote to the exhibition of machinery displays. The machinery display with us is getting smaller and smaller every year and I think it is possibly on account of less time and attention being given it by the Association, and it looks like our program is always crowded so it takes us much longer to get through with it.

We try to have a few subjects and prepare them in condensed form, and then have some one else to prepare an argument on the question, on each subject, and in that way I think we had possibly a little more intelligent meeting than we have ever had before. Different parties are assigned papers to write on certain subjects, and others prepare to challenge them. I never thought the old way fair, or that we got out of it all that we ought to. Heretofore we have been spending a lot of time on reading long papers and very little time on the discussion of them, and in the old way no one was prepared to discuss them. Now, if a man prepares himself to discuss a subject we know he is going to do it.

We find that it was a good plan and worked out mighty well in this meeting, and we are so well pleased with it that we are going to adopt it in the future. However, I believe in a short length of time, if our meeting is not prolonged for us to four days, or if we don't curtail the other features of our three days' meeting, I believe the machinery display at our meeting will be eliminated. It looks that way now, because it does not pay these gentlemen to go there and carry their displays.

PRESIDENT: While Mr. Morgan is deciding about the Vice-Presidents is there any further discussion of anything?

MR. MORGAN: In regard to the educative feature of the order, the western Association works through The Gazetteer as their official organ and the Eastern Association has The Oil Miller, and I would suggest that all the Superintendents would do well to take The Oil Miller, and the President appoint an Educative Committee to write on different subjects during the months, and it would be a good thing for the Superintendents and get the different features that they want to know before them all; ask the question they want to know through The Oil Miller and then all read the answer in it.

PRESIDENT: I think that is a very good idea from an educational point of view and likely could get a great deal through the columns of The Oil Miller that a great many men don't like to discuss when they come here, where a great many of them suffer with something like homesickness, which is equal to stage fright, but at home we can sit down and not fear anything, and write it and put it through the columns of those journals, and I think it is a very good idea.

PRESIDENT: Mr. Morgan, have you got your list made up, of the State Vice-presidents?

MR. MORGAN: Yes, they are as follows: Alabama: L. W. Brower, Montgomery. North Carolina: D. C. Albert, Dunn. Georgia: R. F. Rogers, Unadilla. Virginia: D. B. Price, Suffolk. Mississippi: F. I. Mason, Hattiesburg. South Carolina: C. H. Spencer, Pelzer.

MR. MORGAN: And for the examining Board, the following gentlemen are appointed:

R. F. Rogers, Unadilla, Ga.; W. J. Edmonds, York, S. C.; D. C. Albert, Dunn, N. C.

MR. MORGAN: Are there any other appointments that any of you know about? I have not a copy of the By-Laws, but think that is all of the committees.

MR. STRICKLAND: The committee for selecting the place for the next meeting is composed of the officers, the President, the Vice-President and the Treasurer of the Superintendents who meet with the President, the Vice-President and the Secretary of the Exhibitors, and that committee, that joint committee, decide on the time and place, and all bids for the coming Convention will be handled by that committee.

MR. MORGAN, PRESIDENT: Is there any other business to come before the Association?

A VOICE: What are the duties of the Vice-President?

MR. MORGAN, PRESIDENT: He acts in the place of the President in his absence, and associates with him on the committees.

A VOICE: I mean the State Vice-President?

PRESIDENT: To keep up the interest of the

other members in his state, and stir up as much enthusiasm as he can.

Is there any other business to come before the Association before we adjourn?

A VOICE: I wish to say that I think it would be beneficial to everybody concerned. attend these Conventions more than they do, because I am sure they would appreciate the exhibits and appreciate the meeting, and I think it would be beneficial to everybody concerned.

PRESIDENT: I would like to impress that upon the Vice-Presidents, in extending their invitations to the other Superintendents, to try to get them to bring their women folks along.

A VOICE: If we were to bring our wives here they would not be interested in what we have to say in here but we could plan some amusements for them while we are in session.

PRESIDENT: That would be handled by the Exhibitors, but we could arrange with the Entertainment Committee for the ladies that visit this Association and make it very interesting for them. I think it is a good idea, and you will notice in a good many of the letters I sent out I suggested that they bring their wives and their daughters.

MR. SHELLEY: I have been awfully disappointed this year by not having as many in the meetings and discussing things. We have brought up many things that would have been worth so much to every Superintendent.

But next year we must have time for new business. That is the way I think we are going to get new material in the Association. Absolutely, you have got to talk about something that a man is interested in, and got to give some of them work to do. Some of them come here and would like to get busy but we just have not got enough push behind us to get a man busy.

MR. ROGERS: I would like to say one word here, as a suggestion to the President and the Secretary, when they meet with the members of the Machinery Exhibit that they ask them to arrange for the meeting at some other point in this building, or some where else, so we can hear. We cannot hear anything in here unless you sit right by the speaker.

And another thing is, to ask the machinery men to absolutely close up the exhibit room and cut out the power while we are in session, and to come into the meeting.

PRESIDENT: We will try to make some better arrangement, if we can.

A VOICE: In talking with Mr. Camp this morning, and with Mr. Burruss, they both agreed the

machinery men were willing to close the Exhibit Hall, while the Superintendents were in session, and that all we had to do was to ask them and they would do it.

MR. PRESIDENT: We will try to arrange it at the next session.

MR. WOLFENDEN: We thought that in this Convention, by having one meeting in the morning and one in the afternoon, we would certainly be able to get all the Superintendents in here, but it seems like we get further away from it, and we have got to institute some kind of proposition by which we can get more interest, and get that interest manifested by the Superintendents coming in here.

PRESIDENT: If there is nothing more, a notion to adjourn is in order.

MR. ROGERS: I MOVE we adjourn.

MOTION CARRIED.

ADJOURNED, SINE DIE.

TWO NEW MILLS FOR SOUTH CAROLINA.

There will be two new mills built in South Carolina this season. The Evans Oil & Fertilizer Company, of Greenwood, S. C., are erecting a four-press mill and the Citizens' Oil Mill, of Easley, S. C., have recently let a contract for all the machinery for a two-press mill. The Murray Company, of Atlanta, are furnishing the equipment for both of these mills which will be of the most modern type. The fact that there have been so few new mills built the last few seasons adds interest to this announcement.

WELL KNOWN SUPPLY MAN GOES TO NEW YORK.

Mr. S. A. Pardee, the southern representative of R. & J. Dick, Ltd., has been transferred from the Atlanta office to the New York branch. His many friends among the oil mills will regret that he has left the southern territory but congratulate him on his good fortune.

Mr. Pardee was secretary and treasurer of the Oil Mill Superintendents Exhibitors' Association, and his removal from the Atlanta office necessitated his resigning from this office. Mr. O. A. Sharpless has been appointed to fill the place.

POSITION WANTED.

Cotton seed oil mill manager, twelve years' experience, would like to make change at once. Address "R" care The Oil Miller, Empire Bldg., Atlanta, Ga.

MEMPHIS AND THE DELTA

(Giles B. Bond, Memphis, Tenn., Special Correspondent for Oil Miller.)

The Crescent Cotton Oil Company is rebuilding one of its large cottonseed warehouses, which was destroyed by fire last fall. The new building is to be a steel structure with galvanized iron covering. At the same time the seed house was destroyed, the Dixie Refining Company's refinery and lard compound plant was destroyed. On account of the increased cost of building, the company did not replace the old structure, but secured a plant in New Orleans, which was already built and have been operating in that city for several months.

The Roberts Cotton Oil Company, whose head office is in Memphis, are replacing the seed warehouse at Cairo, Ill., with a concrete fireproof building. The old seed house burned during the past season. They are also building separate brick seed cleaning houses at their Cairo and Jonesboro, Ark. plants in order to get the best results and keep their insurance at a minimum.

George Day and H. W. Pennepacker have formed a partnership under the name of Day & Pennepacker, with offices at 62 West Court Avenue, Memphis, Tenn. They will deal in cotton waste and linters. Mr. Day has been in the same business in Charlotte, North Carolina, and Mr. Pennepacker was formerly with the International Cotton Products Company, of Memphis and Atlanta.

The cotton shed of the Central Oil Mills, Jackson, Tennessee, was destroyed by fire recently, half of its contents being destroyed and the balance damaged by fire and water. The loss was estimated at \$5,000, covered by insurance.

Mr. A. B. Paschall, of Nashville, Tenn., has been appointed assistant manager of the Bellevue Cotton Oil Company, of Memphis. Mr. Paschall was formerly with the Tennessee Inspection Bureau, and comes to Memphis very highly recommended.

E. T. Lindsey, of Memphis, and associates, have purchased the Anguilla, Mississippi oil mill and will operate it under the name of Anguilla Cotton Oil Mill. They are adding another press and improving the plant generally and will be ready for business when the season opens. Mr. W. F. Ruffin, formerly of Covington, Tenn., will be the new manager. This makes three mills under the control and general management of Ed Lindsay.

Mr. C. H. McLeod who has been with the Lake County Manufacturing Company, Tiptonville, Tenn., has been appointed manager of the Covington Cotton Oil Company, Covington, Tenn.

The Drew Oil Mills, Monticello, Arkansas, of which Mr. Walter Lambert is manager, is making extensive improvements, building fire walls, etc., and putting the plant in condition to get best results and reduce insurance.

The Texarkana Cotton Oil and Fertilizer Company, Texarkana, Arkansas, of which D. B. Johnston is secretary-treasurer and general manager, is building a number of fire walls to reduce insurance and putting the plant in first-class condition ready for the new season.

The new plant of the Liberty Cotton Oil Company, Texarkana, is progressing favorably and the company expects to have it ready for operations early in the season. Mr. G. A. Lansdane has been appointed manager.

Memphis, Tenn.

The United Oil Mills, whose Arkadelphia, Arkansas, mill burned during the past season, is replacing it with a new, modern, six-press mill. The building is progressing favorably and the plant will be ready for the new season.

The Minter City Oil Mill Works, Minter City, Mississippi, is adding an extra press and cooker, and putting the mill in first-class shape for the coming season.

The Independent Oil and Fertilizer Works, Columbus, Mississippi, whose oil mill burned during the early part of the past season, do not expect to rebuild this year.

The Crystal Springs Oil Mill and Mfg. Co., of Crystal Springs, Mississippi, have sold their oil mill machinery and the mill is being dismantled. This plant has been dormant lately.

Mr. George W. Forbes has been appointed manager of the Buckeye Cotton Oil Company's mill at Jackson, Mississippi, succeeding W. G. McNair, who recently resigned to become interested in, and to manage the Belzoni Oil Mill. Mr. Forbes has been with the same company at Atlanta.

The North Carrollton, Mississippi, oil mill, which has been dormant, was recently purchased by Messrs. S. F., D. F., and Ed Jones, Henry Hart and E. M. Purcell, of Greenwood, Miss., who will operate it as a partnership business under the name of Choctaw Cotton Oil Company. Mr. Cain, formerly connected with the Minter City Oil Works, Minter City, Miss., will be the manager.

The Ouichita Cotton Oil Company, Camden, Arkansas, is rebuilding its oil mill which was des-

troyed by fire last season. The new mill will be strictly modern, and will be ready to commence crushing as soon as the new season opens. Mr. L. D. Kemmerer is manager and Mr. Tom Green, Jr., who has been with the Union Seed and Fertilizer Company, at Pine Bluff, will be the superintendent, taking charge of the mill on August 1st.

The Southern Cake and Meal Company, of Dallas, Texas, is the style of a new concern which will deal in cotton seed and peanut products. Mr. Elmer Hunley has the management of the business.

Mr. C. H. Manire will have the management of the new branch of W. R. Grace & Company, New Orleans, and will deal in cotton seed meal and cake for export. Mr. Manire has been in the business for several years, and we feel sure will be successful in his new connection.

The Marianna Oil Mill, Marianna, Arkansas, has been sold to C. P. Reid, of Louisville, and J. W. Patton, of Marianna, and associates, and will be operated by them in future. Mr. Patton, who has managed the business will continue to have active charge and has been elected vice president.

The Searcy, Arkansas, cotton oil mill has been sold to Messrs. Bridewell, Scroggins and associates, who will operate it in future. Mr. T. W. Walker will be the local manager.

Messrs. W. P. Lipscomb, and J. M. Sansom, of Dallas, Texas, have formed a partnership and engaged in the brokerage business at 205-6 Slaughter building, Dallas. They will handle cotton seed and peanut products. They have both been in the same line of business in Dallas for several years.

The Tennessee Cotton Seed Crushers' Association held their regular annual meeting at the Gayosa Hotel, Memphis, Tennessee, on August 5th, 1919. Quite a number of the members were present, and the business was confined mostly to routine matters.

A very interesting talk was made by Mr. Humphreys, of the Phoenix Cotton Oil Company, on the withdrawal of class-rates on linters and the putting of linters on the same freight basis as cotton. Mr. Humphreys recently attended the meeting at Washington, held for the purpose of entering into the matter with the Railroad Administration and securing the proper adjustment of the matter.

The proposition of changing the method of grading seed was referred to a committee.

L. C. Barton, of The Valley Cotton Oil Company, was elected president; E. E. Clarke, of The Southern Cotton Oil Company, was elected vice president and A. G. Perkins was re-elected secretary and treasurer.

CHANGE IN DEMURRAGE CHARGES ON COTTON SEED CARS.

The Cottonseed Crushers' Association of Georgia has been notified by S. Linthicum, chairman of the traffic committee that effective on July 20th, the then existing demurrage charges would be cancelled and the new charge would be \$2 per car for the first four days, following two days of free time, and \$5 a car for each succeeding day. Members should be careful to see that new rates are adhered to in paying future charges.

The Cottonseed Products Co., Louisville, has started work on replacing a burned cottonseed warehouse and other buildings at a cost of \$50,000. The new buildings will be of fireproof construction. The main plant was not injured.

The consolidation of the Louisville Soap Co., and the Edible Oil Co., as the Louisville Food Products Co., has been practically completed, the new company being capitalized at \$4,400,000, and taking over the entire properties of the two companies, including the soap plant, the Buttercup line of tank cars, and the Edible plant, which was formerly the plant of the Kentucky Refining Co. F. W. McKee, who was president of the Edible company, will be president of the new concern, and John S. Middleton, president of the soap company, has become chairman of the board.

A new oil mill and fertilizer plant at Rocky Mount, N. C., is being planned by W. R. Griffin.

The Eastern Cotton Oil Co., has purchased a site for a plant at Suffolk, Va., to cost \$125,000.

The Osage Cotton Oil Company and Florida Cotton Oil Company with headquarters at Chattanooga, Tenn., have been consolidated under the name of the former company.

H. H. Caton will build a 6-press cotton oil mill at Ashdown, Ark., to cost around \$125,000.

It is reported that the Allied Packers, Inc., will acquire or erect cotton oil mill properties in the South, both crude mills and refineries.

The Mebane Cotton Oil Co. has been incorporated at Lockhart, Tex., with a capital stock of \$5,000.

GILES B. BOND COMPANY BROKERS

Cotton Seed and Peanut Products.

1030 Falls Building

MEMPHIS, TENN.

We want to be YOUR Brokers.

TEXAS AND THE SOUTHWEST

(Glenn Pricer, Dallas, Tex., Special Correspondent for Oil Miller.)

The Texas Cotton Seed Crushers' Association in session at Galveston in June, refused to adopt a resolution asking Congress to place a tariff on Oriental oils. A tariff which would restrict imports of oils was favored by President J. Webb Howell in his annual address. He claimed the South's cotton seed oil crop is penalized \$1,600,000 a year by imports of oriental oils.

This resolution was defeated on the third day of the convention after it had been thoroughly discussed in committee. The resolution was opposed by C. E. Littleton, of Fort Worth, former president of the association. He said the adoption of such a resolution would cause the price of cotton seed to rise. He also declared there is a scarcity of fats in the United States and the manufacturers need the Oriental oils. The refineries will lose business if an embargo is placed on the importation of oriental oils, he said.

A resolution offered by President Howell that Congress be asked to reduce the tax on colored oleomargine was adopted.

Other resolutions adopted by the association were:

That the warehouse and markets department of the state enforce more carefully the laws regulating ginning and the marketing of cotton seed.

That the Railroad Administration offer more favorable rates to cotton seed crushers.

That Congress pass a standard feed law and that the state legislature do not raise standards above this law.

The strong keynote of the convention was the advice of F. M. Laws, president of the Texas Bankers' Association. He told the oil men that care and conservation in buying, elimination of all wasteful practices, making high grade products, selling for what they were worth, using courtesy, getting close friendships of producers of raw materials and consumers of products, refusal to speculate and encouragement of sufficient material to permit continual running of plants would bring prosperity and industry to the country.

In his annual address President Howell said no other industry had done more for the progress of the war and gotten less out of it. F. M. Law said he agreed with the president on the first point, but did not on the last point.

"You have gotten more out of it than you will ever know," he said. "You have earned the respect and admiration of all the people of this state and of the people at large. The State Food Administration has been lavish in praise of the cotton seed

crushers. It was the crushers which came to the relief of the cattlemen during the drouth and gave them enough cotton seed to save the cattle from starvation. This saved for the country later vast quantities of food."

President W. B. Bizzell, of A. & M. College, told the cotton seed crushers they must favor good roads and be content to pay high prices to the farmers.

"There is no way to escape the relation of the town with the country," he said. "You have no right to expect the country people to be forced to wear poorer clothing or to be content with less comforts and enjoyments in life than you enjoy. The welfare of the nation depends on a contented people."

The following officers of the association were elected for the coming year:

President—J. A. Underwood, Honey Grove.

Vice-President—R. F. Crow, Houston.

Secretary—Major Robert Gibson, Dallas.

The place of the next annual meeting will be fixed by the executive committee.

A beautiful silver service was presented to J. Webb Howell, the retiring president. Memorial resolutions were adopted for the following, who have died during the year: R. L. Heflin, Dallas; J. R. Gilmer, Wolfe City; R. G. Hilje, San Antonio; E. W. Scales, Victoria; V. N. Theriot, Galveston.

President Bizzell, of A. & M.; John M. Parker, of New Orleans, and F. M. Law, of Houston, were made honorary members of the association.

COURTS TO CONSTRUE SEED MEN'S BY-LAWS.

The construction of the by-laws and constitution of the Texas Cotton Seed Crushers' Association must be construed by the courts before a dispute now pending between a member of the association and an officer of the association. The suit is by the Russell Coleman Oil Mill against J. A. Underwood, president of the association.

This is an injunction suit brought by the oil mill in the district courts of Fort Worth against the officers, arbitration and appeals boards to prevent them from putting into effect a decision reached in a dispute between members of the organization over a business transaction involving the sale of a large quantity of cotton seed products. A temporary injunction was granted pending the hearing of the case on its merits.

The cotton mill has appealed to the courts for the settlement of the dispute, and asks that the

court construe the constitution and by-laws of the organization, especially those sections referring to the arbitration and settlement of disputes.

J. W. Roberts, manager of the cotton seed oil mill at Denton, Texas, who has been in the business in Texas twenty-two years, says the coming season looks especially good to him, and predicts that all the Texas mills will have record runs. The Denton mill is an eighty-ton capacity plant. Roberts has been manager of mills at Calvert, Alvarado, Fort Smith, Midlothian, Taft Ranch and Den-

The Huntsville Gin Company is starting a new gin at Huntsville, costing \$25,000, and will add a feed mill and other improvements later.

M. H. Wolfe, of Dallas, cotton broker, has just left for Europe on an important mission for the federal government and for the National Export Financing Association. He has been selected to investigate and report on credits of European countries, who may desire to buy cotton and cotton products.

He will make special inquiry into the new Czecho-Slovak countries and their ability purchase on credit the cotton they need. The Export Financing Corporation is prepared to extend \$100,000,000 worth of products, provided the proper credit can be furnished.

CALCULATING CLAIMS ON CRUDE OIL.

A large number of oil men do not understand the method of calculating allowances on off crude oil. For this reason, we thought it well to explain in detail, with an example, the method ordinarily used in calculating claims. There is another method proposed, but as yet not in common use, which results in larger claims. Owing to the high price of oil and high operating costs, there is considerable merit in the refiners' contention for this new method of calculation. We will write further about this method at the close of this article. The ordinary method of calculating allowances is as follows:

Assuming crude oil sold on a basis prime contract at \$1.65 per gallon and the refining test shows a 14 red oil with a 13% refining loss and off flavor. The excess refining loss is 13%—9% equal to 4%. Then the gross allowance per gallon for excess refining loss is $165c \times .04$ equals 6.60c. Assume 50% fatty acid soap stock to be worth $2\frac{1}{2}c$ per pound. Since the 4% excess refining loss is oil containing approximately 90% fatty acids, this ex-

cess refining loss is equivalent to $9.5 \times 4\%$ equal 7.2% soap stock containing 50% fatty acids. The credit per gallon for excess soap stock is $7.5 \times 2\%$ equal 1.08c. The net allowance for excess refining loss is 6.60c—1.08c equal 5.52. This is reducing soap stock $\frac{1}{2}c$ per pound for handling.

The allowance for off color given under the code word "folio" in Yopps code have proven so satisfactory that they are usually used in calculating allowances on basis prime contracts. According to this method, the allowance on 14 red oil is 2c per gallon.

The allowance for off flavor is 1c per gallon.

	Summary
Excess refining loss	6.60c
Credit for soapstock	1.08
Net excess refining loss	5.52
Color	2.00
Flavor	1.00
Total	8.52

An oil having a 14 red color has very limited use in that condition. In order to be used in compound, it is necessary to refine it, thus causing an additional re-refining loss. It is based on this fact of re-refining that the new method of calculation is worked out. Depending upon the color of refined oil obtained by the first refining, one or two re-refinings will be necessary to produce an oil that can be used in compound. The point that will have to be decided is whether a fixed loss for each re-refining be stated in the rules or whether laboratory results on re-refining be used. If laboratory re-refining results are to be used, a larger official sample will have to be sent to the laboratories. Also, the laboratories will have to make two or more original refinings with the lye that gave the best results in order to obtain enough oil for a re-refining test. This will be time consuming.

With high prices, there is justice in the proposed method of calculation. The trouble comes in its application. It can easily become a means of inflating claims. To guard against this it must be surrounded with safeguards.

Yours truly,
The Fort Worth Laboratories,
R. H. Fash, vice-pres.

POSITION WANTED.

Wanted—Position by an expert oil mill accountant fully capable to manage a mill. Willing to accept any reasonable offer to start in where the chances for promotion are good. Address, Cashier, Box 228, Greenville, Miss.

A cottonseed oil mill to cost around \$100,000 will be built at Greenwood, S. C., by F. S. Evans.

HOARD'S DAIRYMAN VS TEXAS CRUSHERS.**By John T. Ashcraft.**

According to Hoard's Dairyman the Texas Cotton Seed Crushers' Association are a bad lot. It seems the Association has issued a circular letter which Hoard's denounces as false in toto.

First. The circular letter says: "The butter interests are trying hard to get Congress to require the payment of the 10-cent tax on margarine, made with cottonseed oil or peanut oil and showing a beautiful yellow color, without artificial aid." Hoard's says: "The 'butter interests' are not trying to require the payment of a tax on colored oleo. The law is now on the statute books."

Both are a little wrong. The law now imposes a tax of 10 cents a pound on artificially colored oleomargarine, and worse than that it imposes heavy license taxes upon the producers and distributors. The "butter interests" are vigilant in their efforts to keep this tax and these licenses from being repealed, because they destroy the business of making artificially colored oleomargarine which is just as necessary to the production of large quantities of a uniform goods as artificial coloration is necessary to the production of large quantities of uniform butter.

"The margarine made with cotton seed oil or peanut oil and showing a beautiful yellow color, without artificial aid" bears a tax of one-fourth cent per pound and the producers and dealer must pay heavy licenses, taxes which greatly restrain the production and distribution of this desirable food but these restrictions on naturally colored margarines do not satisfy our butter friends by a long shot. **They want Congress to prohibit the use of these oils altogether.**

Testifying before the U. S. Senate Finance Committee, J. J. Farrell, representing the National Creamery Buttermakers' Association, said:

"When it was taxed 10 cents a pound, as far as the dairymen were concerned, it was presumed by them that by that act the colored oleomargarine would be driven out of the market. Through the advent of science and chemistry and the selection of fats and oils it has brought about a situation that has colored oleomargarine without artificially coloring it. About 55% or 60% that is sold is just naturally yellow. We only had that tax originally put on there to drive out imitation, the colored product, out of the market. **Any natural products they are using, making it yellow we want prohibited.**"

W. T. Creasy, secretary of the National Dairy Union, the man whose business it is to fight the use of peanut and cottonseed oils in the production of oleomargarine, testifying before the Joint Committee on Definitions and Standards in Washington said:

"The Bureau of Standards has worked out for the National Dairy Union a measurement for color in oleomargarine. By this adopted basis of measuring color, which is expressed in terms of the ratio between the reacting power of blue and yellow, the degree of yellow coloration can be controlled. This limit agreed upon would practically be represented on the card marked 70 per cent white. We respectfully ask your honorable committee to recommend such legislation as is necessary to bring about the desired results."

When the President of the Cotton Seed Crushers' Association inquired of the Bureau what effect the adoption of this standard would have upon the use of Prime Summer Yellow peanut and cotton seed oils in the production of oleomargarine he was advised that they would be practically excluded.

Second. The circular letter said that cotton seed and peanut oils get their beautiful yellow by "exactly the same method followed by every cow in giving natural color to butterfat." Hoard's said: "The cow doesn't select her food for the purpose of coloring her product. That is incidental. The oleo manufacturer has intentionally sought to secure oils which would give his product a yellow color, selecting them not because they make a good product, but merely to add color that the consumer may be deceived in its sale." Of course, we cannot tell what the purpose of the cow or of the peanut and cotton seed in seeking or making a beautiful yellow color, but it is certain that peanut and cotton seed began their work of storing up yellow oil two days before the cow began her work, if the Bible is to be believed. It is certain they never fail in storing up yellow oil while the cow during certain seasons of the year makes a total failure so that the butter makers artificially color her product for a large portion of the year. What is the purpose of the buttermaker in artificially coloring his butter?

The percentage of peanut and cotton seed oils in the production of margarines has increased more rapidly than the use of any other food during the past two or three years. The people are just learning that they make not merely a good, but a superior product. They have learned from government bulletins that peanut oil has a digestive ability of 98.3 per cent, cottonseed oil 97.8 per cent, while butter fat has only 96.9 per cent. They have learned that these almost perfectly digestible oils are required to be churned in pasteurized milk under the supervision of Federal inspectors while butter has no such supervision.

Third. The circular letters says: "Cultivate your congressman. Get him information about the butter substitute that is using large quantities of your oil." Hoard's says: "Comparatively little cotton seed oil is used in the manufacture of oleo,

and it is used only in the cheaper grades of oleo."

The fact is that in 1918 eight times as much peanut and cotton seed oils were used in the production of oleomargarine as all the creamery butter produced in the South. And if it were not for the high licenses required of manufacturers and dealers and the annoying revenue bonds and regulations required, it is estimated by high authorities that the annual production of oleomargarine would be increased to the billion pounds. This would only be ten pounds per capita, whereas Holland produces 66 pounds and Denmark 44 pounds per capita and these are the two most prosperous dairy countries in the world.

Fourth: The circular letter says: "As good as butter, it sold last winter at half the price." That statement disgusts Hoard's. He says: "As good as butter. The mere statement answers itself. It never was or never will be as good. It does not contain the growth essentials found in butter."

The Surgeon General of the United States army says:

"Upon scientific ground there is no reason to suppose that oleomargarine containing 10 per cent of butter fat as required by army specifications is not in every respect the equivalent of butter. The army has purchased enormous quantities of oleomargarine prepared under these specifications and doubtless will continue to do so for it has given better satisfaction as regards keeping qualities than butter."

Fifth: The circular letter says: "If milk producers only realize it, the use of milk, after separation, for the making of vegetable margarine would give sale for what is now wasted of their product and greatly increase their earnings." Hoard's says: "It is absurd to think that a considerable market for skim milk is opened by the manufacture of oleo. It is not a drop in the bucket."

Doctors Vernon Kellogg and Alonzo E. Taylor have probably given as wide and patriotic study to the question of human food as any other two living men. In their book, *The Food Problem*, published by the MacMillan Company, they point out:

(p. 148-149) An intensive development in dairying in the indirect sense has been evolved in Europe but has received little attention in this country. This is the combining of the process of making butter and margarine. In this country butter is made from cream secured by the centrifugation of milk and the skimmed milk is then either fed to swine or thrown away, unfortunately, to a very considerable extent. In Europe, this skimmed milk is used for the further manufacture of margarine. Vegetable and animal fats in proper proportion, largely vegetable fats, are mixed with the skimmed milk and churned out just as butter

would be. In this way a very good product is obtained which has flavors derived from the milk.

(p. 150) It is necessary in the United States to increase the consumption of vegetable oils. . . They must be passed through some sort of a fabrication in order to give them physical qualities that are in themselves desirable. There is not enough butter to go around. . . (p. 151) Viewed properly, margarine and butter are not competitive; they are supplementary. . . The dairyman and creamery should manufacture margarine just as they manufacture butter, butter being the product of the primary churning margarine the product of the later churning.

Hoard's says: "The only truthful statement in the circular is the concluding sentence, 'Every farmer ought to be interested.' Every farmer should keep himself advised and should give financial support to the National Dairy Union that is now fighting his fight to preserve the butter market from the deceitful competition of oleo." He should have said: "Give financial support to the National Dairy Union that is now fighting to have peanut and cottonseed oils excluded from their very best markets." Then he would have been speaking the truth about the National Dairy Union.

MONSTER PEANUT CROP THIS YEAR.

The Department of Agriculture has just made public its estimates on the South's peanut crop this year and basing these estimates on conditions existing July 1st, it shows a total crop of 55,531,000 bushels compared with 54,434,000 bushels last year or an increase of a million bushels.

Alabama leads as a producer, growing more than one-quarter of the country's output, but her crop this year shows a decrease of 1,700,000 bushels from last year. All the other peanut-growing states east of the Mississippi river excepting Florida also shows smaller crops this year, while the states west of the Mississippi—Arkansas, Oklahoma and Texas—show increases. Texas, with an increase of almost 5,000,000 bushels, makes this year's total crop for the country larger than last year.

The country's peanut acreage this year is 1,738,400 acres, a decrease of 23 per cent from the acreage of last year. Arkansas was the only state showing an increase in acreage.



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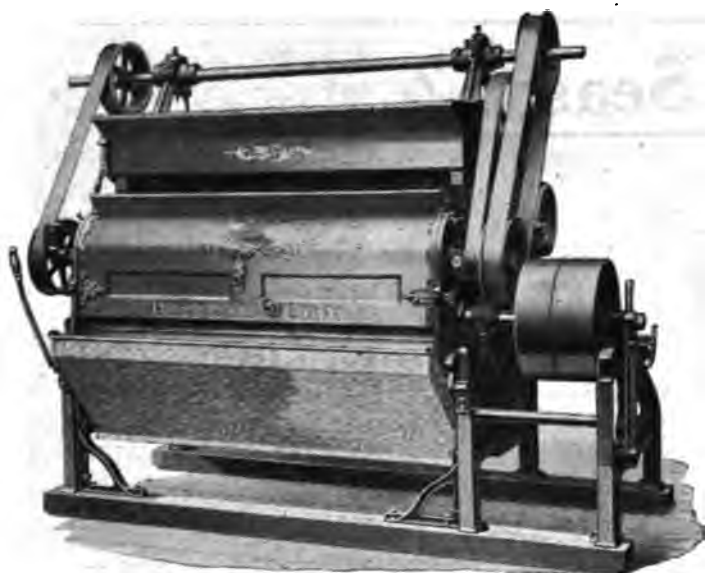
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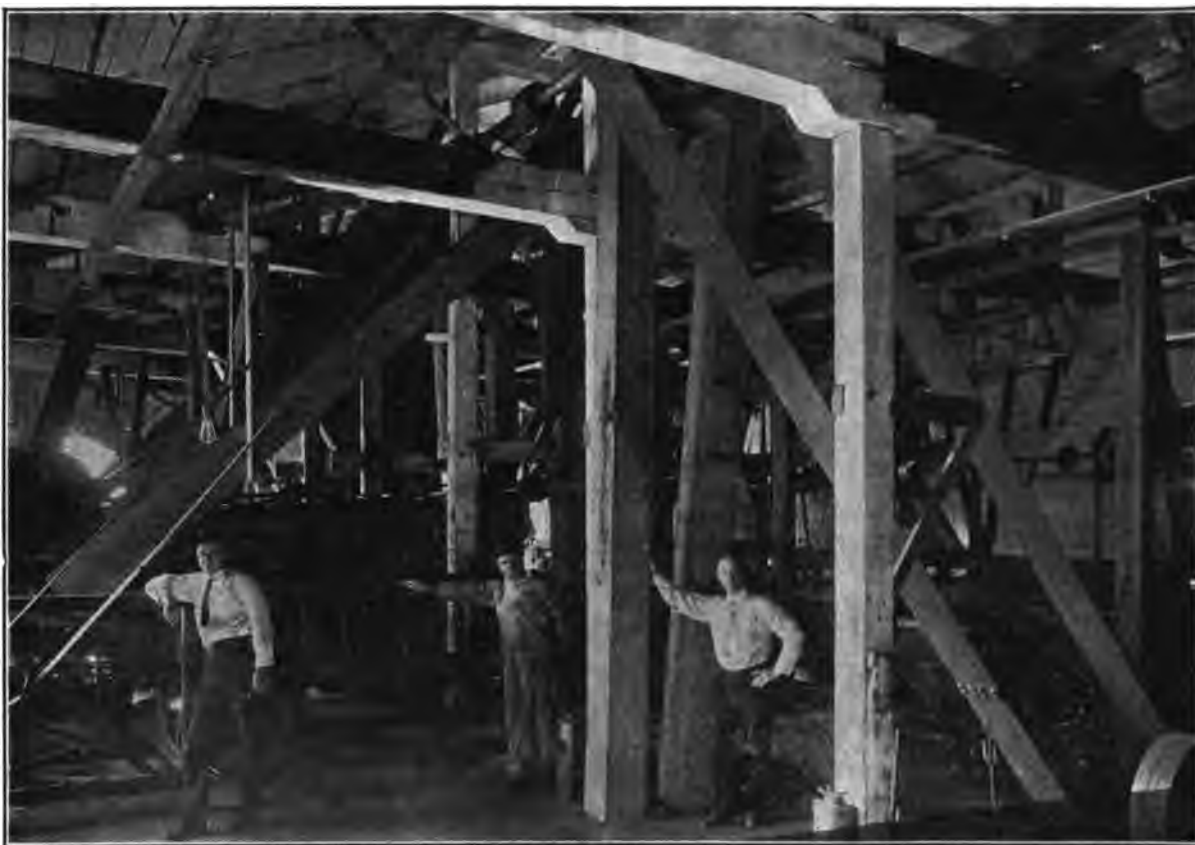
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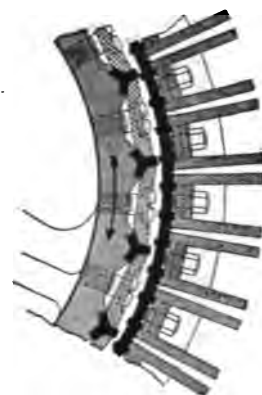


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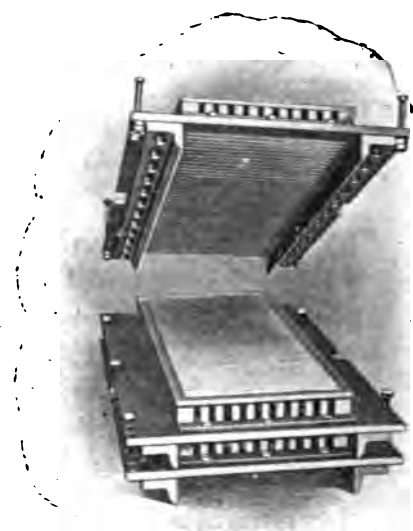
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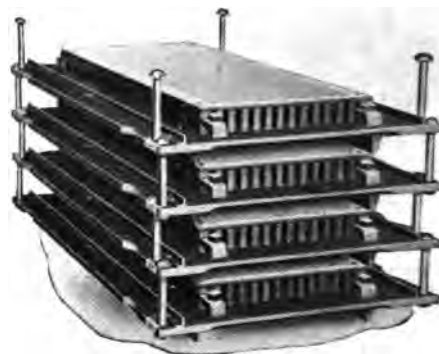
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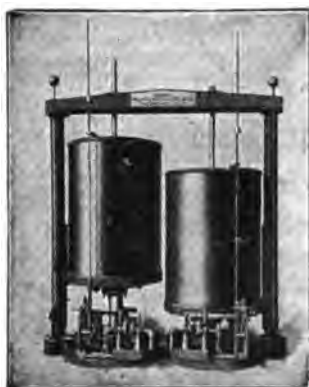
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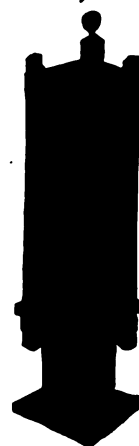
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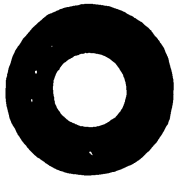
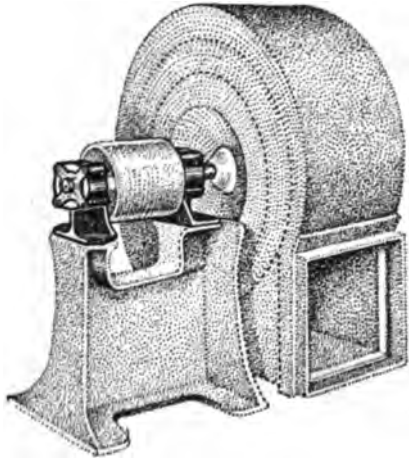
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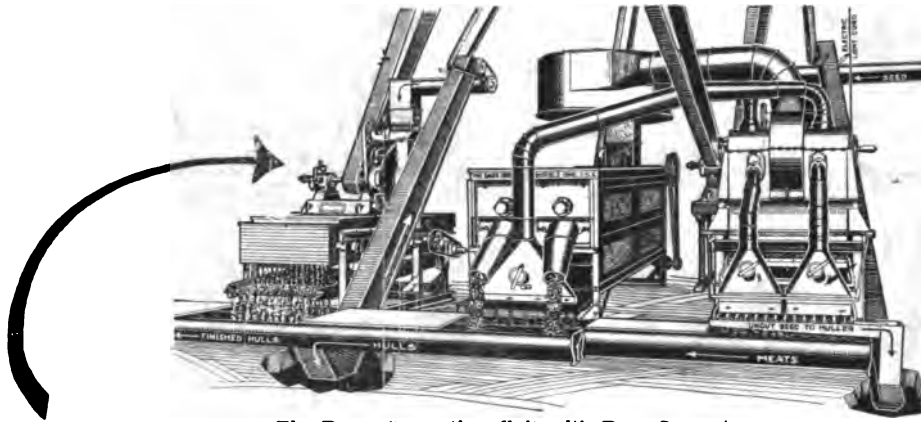
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